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BRONCHIECTASIS*

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LAENNEC[1] in 1819, was the first to describe bronchiectasis. It is a chronic lung condition probably second only to tuberculosis in frequency. The etiology is congenital (idiopathic, primary) or acquired (secondary). It is characterized pathologically by dilatation of the peripheral bronchi or bronchioles, and there is a variable amount of infection and inflammatory destruction of the bronchial walls associated with an abnormal amount of peribronchial lymphocytic infiltration. In general there is no demonstrable parenchymal disease in the congenital type whereas parenchymal disease is characteristic in the acquired or secondary type: The symptoms are highly variable, ranging from no symptoms to debilitation of the patient. The disease is thought to be irreversible and often progressive. Diagnosis is made by bronchography and the treatment is palliative by medical means or curative by surgical excision of the diseased bronchi.

The etiology of bronchiectasis is rather uncertain. There seems no doubt that congenital bronchiectasis exists since it has been demonstrated in the newborn fetus[2,3] and it occurs so frequently in Kartageners[4] triad, a bizarre association of situs inversus viscerum, bronchiectasis and inperfect sinuses. The characteristic occurrence of bronchiectasis after untreated foreign body obstruction of a bronchus attests a simple mechanical origin for the acquired type. The great variation in symptoms can be attributed to the type and virulence of the infection and not to the etiology. The extreme difference in the gross pathologic findings of parenchymal disease or absence of parenchymal disease undoubtedly depends upon the presence or absence of alveolar pores[5,6] and their free interalveolar communication.

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It is interesting to review the etiology of bronchiectasis described in 1860 by Biermer.[7] He wrote about infection, the structural defects of bronchi, mechanical factors, of respiration and atelectasis. Infection caused by stagnated secretions was described by Laennec in 1819. Under defects of structure Andral (1827) described atrophy of the bronchial wall; in 1837 Stokes showed there was disruption of elastic fibers in the bronchial wall and an absence of ciliary movement to cleanse the bronchi. Mechanical factors causing dilatation of the bronchi were presented; Reynaud (1835) called attention to the pull upon the bronchial wall caused by the negative pressure of inspiration; Mendelssohn (1845) remarked on the effects of increased intrabronchial pressure caused by expiratory pressure, particularly coughing. Barth (1856) thought obliteration of the pleural space permitted the full force of inspiratory negative pressure to be asserted upon the bronchi, thus enhancing their dilatation. Corrigan (1838) called attention to the shriveled lung as a cause of bronchiectasis. Was he not writing about atelectasis?

Grawitz[2] in 1880 first systematically described congenital bronchiectasis. Bard[8,9,10] asserted that there is a deficiency in the tissues of the bronchial walls that permits the bronchi to become dilated and distorted by factors and forces that would not disturb normal, well-developed bronchial wall tissues. Bronchiectasis has been demonstrated in the newborn fetus.[2,3] It has been recognized as occurring in identical twins and in siblings.[11] Torgersen[12] believed bronchiectasis to be associated with a small frontal sinus which results from a developmental defect. Kartagener's[4] triad of situs inversus, paranasal sinusitis and bronchiectasis renewed interest in the congenital etiology. It was reported by Adams and Churchill[13] as occurring in as high as 21.7 per cent of twenty-three cases of situs inversus. Sauerbruch[14] believed 80 per cent of the patients he treated and studied had congenital bronchiectasis. Apparently he based his opinion upon the presence or absence of associated lung parenchymal pathology. It is obvious that the presence or absence of alveolar pores[15] or the character and virulence of the invading bacteria will materially change this finding. The European writers are more inclined

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to accept the congenital theories than are the American workers in this field.

The theory that bronchiectasis can be acquired is readily supported. Laennec in 1819 described stagnation of secretions in the bronchi as a cause for infection that lead to the disease. He also thought it followed pneumonia in childhood. Grancher[16] discussed bronchiectasis that came after tuberculosis of the lung. Claisse (1895)[17] and Hoffman[18] (1896) reported bronchiectasis that followed bronchial stenosis and foreign body in the bronchus. Spain[19] (1948) described irreversible bronchiectasis occurring fifty days after aspiration of a metal screw that lodged in a bronchus. Bauer[20] (1911) showed bronchiectasis that followed measles, whooping cough, la grippe, bronchopneumonia and bronchitis. Bossert[21] (1921) and others reported bronchiectasis occurring after influenza. Corrigan (1838) described the shriveled lung as a cause of bronchiectasis; perhaps this was atelectasis. Heller[22] (1855) brought forth the term fetal atelectasis; this raises the question as to whether there is some relationship between fetal atelectasis and so-called congenital or idiopathic bronchiectasis. Andrus[23] (1937) popularized the theory that atelectasis, especially when associated with infection, was the most important cause of the disease. He demonstrated that atelectasis permitted the full force of the mechanical factor of inspiratory intrapleural negative pressure to assert itself upon the bronchus, this causing it to dilate. There is little doubt that paranasal sinusitis[24] is a part of the etiologic factor in bronchiectasis. Warner[25] in his excellent discussion of bronchiectasis showed that definite pulmonary infection preceded bronchiectasis in 59 of 110 cases studied.

The experimental work of Tannenberg and Pinner[26] (1942) seems to strengthen the theory that atelectasis with infection and bronchial obstruction is an important factor in the etiology of bronchiectasis; however, it completely eliminates the mechanical factor of inspiratory negative intrathoracic pressure as an etiologic factor. He showed in rabbits that atelectasis by partial or complete bronchial occlusion without infection did not result in bronchiectasis; however, partial or complete obstruction of the bronchus with infection did cause bronchiectasis. The elimination of the negative intrapleural pressures by artificial pneumothorax did not prevent or moderate the development of bronchiectasis. No conclusions can be reached but it is important to refer to the experimental work of Veghelyi.[27] By feeding carbon tetrachloride to rats there was produced cystic degeneration and fibrosis of the pancreas, chronic peribronchitis with peribronchial infiltration consisting exclusively of lymphocytes, and fibrosis of the lungs leading to extensive bronchiectasis. The condition is suggestive of the cystic pancreas which is often associated with cystic disease of the lung or bronchiectasis.[28]

In the surgical treatment of bronchiectasis it quickly becomes evident that the parenchyma of the lung is of a grossly normal appearance (Figure 1a) in the majority of patients, as described by Sauerbruch.[14] It also becomes obvious that the parenchyma of the lung surrounding the dilated, diseased bronchiectatic bronchi usually does not deflate readily when the chest is opened and pressure is removed from the intratracheal tube; the bronchiectatic areas remain moderately filled with air. (Figure 1b) The remainder or healthy areas of the lung parenchyma deflate readily and normally and quickly become completely airless. This finding persists even though the lung is denervated by

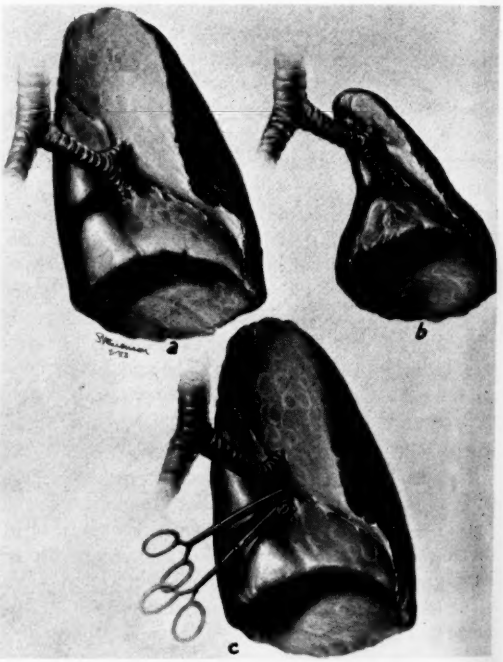

FIGURE 1

(a) **Drawing to illustrate a normally inflated left lung with bronchiectasis of all basilar segments. Bronchiectasis of the basilar segments of the lower lobe cannot be distinguished from a normal superior dorsal segment of the lower lobe or from a normal upper lobe.** ***(b)*** **A drawing to illustrate that when the anesthetist does not apply positive pressure the normal areas of the lung parenchyma quickly and readily deflate; however the bronchiectatic basilar segments remain partially inflated. The bronchiectatic segments will remain inflated for a long period of time perhaps 30 minutes.** ***(c)*** **The drawing illustrates a division between clamps of the bronchus leading to the bronchiectatic basilar segments. With the interruption of the bronchus to the bronchiectatic basilar segments the anesthetist is able to inflate the lung to its original state. Even the basilar segments inflate to a normal state. This proves that the collateral air drift or normally functioning alveolar pores permit the lung parenchyma about the bronchiectatic basilar segments to fill from communication with the superior dorsal segment of the lower lobe.**

removal of posterior pulmonary plexus and periarterial and perivenous sympathectomy. The inability of air to escape through the bronchiectatic bronchi persists even after excision of the diseased area, therefore the obstruction to air flow should not be on the basis of abnormal nervous control or muscular spasm. Once the bronchiectatic area or bronchiectatic segment is excised and the bronchus cannulated the parenchyma can be easily inflated to a normal size but it will deflate only 10 to 20 per cent even though external pressure is applied. This finding shows that there is obstruction to flow of air out of the alveoli and not into the alveoli by way of the bronchus. These findings indicate the cough air blast from the lung parenchyma in such an area is lost. Therefore the diseased area has lost its ability to clear or cleanse itself of secretion by cough. There is stagnation of the bronchial secretions which lead to the beginning and persistence of infection. At present there is no conclusive evidence concerning the true nature of this pathologic abnormality nor any indication as to whether it is present before or after the development of bronchial dilatation.

However in bronchographic study with lipiodol it is usual to find some lipiodol in the alveoli of the normal lung parenchyma about normal bronchi. (Figures 4, 5) Great care must be exercised to prevent normal alveoli from filling to the point of obscuring the bronchial detail. It is one important reason for using lipiodol in a cool or cold state. On the other hand lipiodol almost never enters the alveoli (Figures 4, 5) surrounding bronchiectatic bronchi even though the parenchyma is grossly normal when seen at operation. It is this fact that gives the impression of "leafless tree" in the bronchographic picture of bronchiectasis and yet the dilated bronchiectatic bronchi are not crowded into a small area. In the injection of bronchi of lung specimens with plastic material the same findings are observed as with bronchographic studies; in the normal specimen alveoli fill readily but in bronchiectatic specimens the alveoli do not fill. (Figures 2, 3) This would also indicate that spasm of bronchial or alveolar duct musculature is not the cause of the obstruction. These facts also indicate that the obstruction to flow of air, lipiodol or plastic material is proximal to the alveolar sacs and probably distal to the bronchioles. Churchill[29] believes it to be at the neck of the alveolar sacs.

It is important to point out that when there is fibrosis or persistent disease of the lung parenchyma

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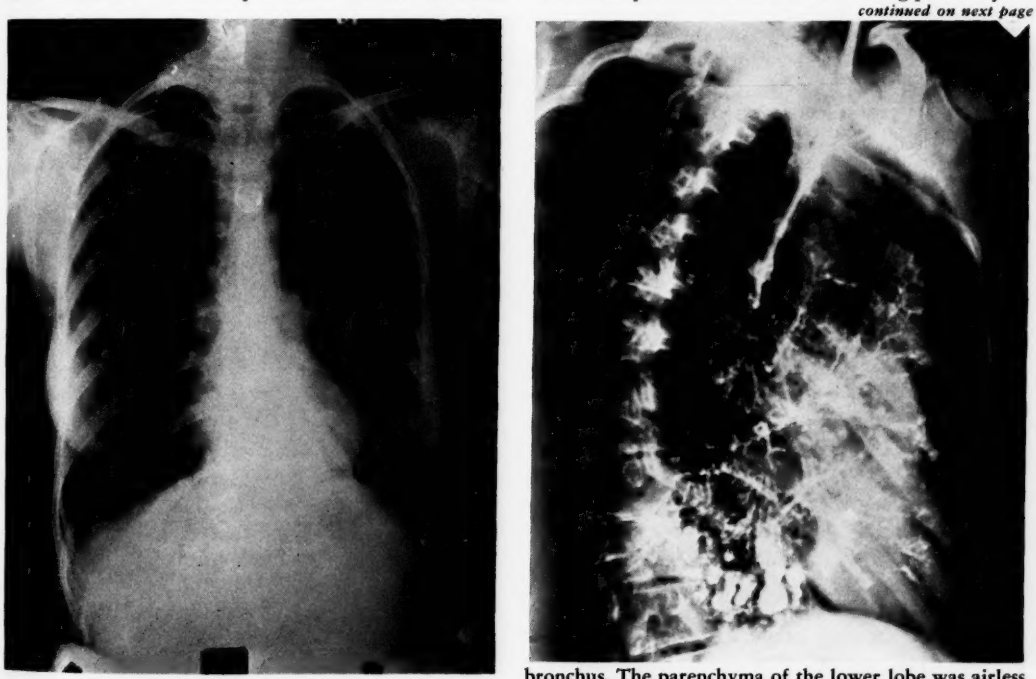

FIGURE 4

(a) A photograph of a chest roentgenogram showing a consolidated lower lobe. *(b)* A bronchogram of the same lung showing the lower lobe to be markedly bronchiectatic throughout all its segments even the dorsal superior segment of the lower lobe. The lingular segment of the upper lobe is bronchiectatic but the surrounding lung parenchyma is inflated. At operation the lung parenchyma was inflated and normal about the bronchiectatic lingular bronchus. The parenchyma of the lower lobe was airless or solid. These photographs show that one cannot distinguish acquired from congenital bronchiectasis by the presence or absence of parenchyma involvement. Obviously this patient did not have congenital bronchiectasis of the lingular segment and acquired bronchiectasis of the lower lobe. Whether the parenchyma is inflated or normal depends upon the presence or absence of fibrosis, infection and collateral air drift or functioning alveolar pores.

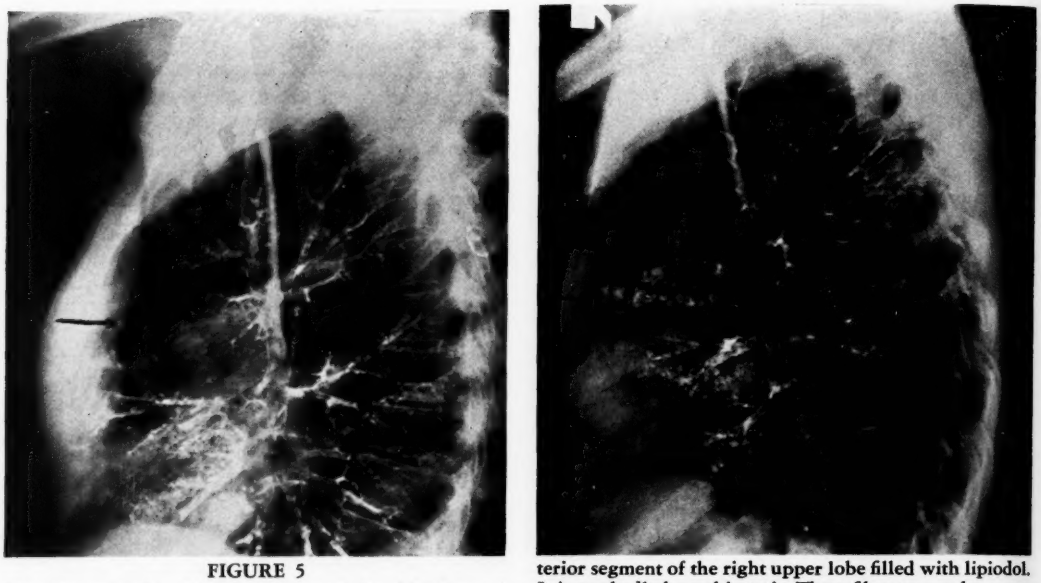

FIGURE 5

Two photographs of bronchograms of the right lung of the same patient. *(a)* The lipiodol did not fill the anterior segment of the right upper lobe. The bronchogram is otherwise a good and complete one. *(b)* Shows the anterior segment of the right upper lobe filled with lipiodol. It is markedly bronchiectatic. These films prove the necessity of demonstrating every pulmonary segment or subsegment when doing a bronchogram. Any pulmonary segment or subsegment not filled may be bronchiectatic.

or when the lung parenchyma is airless the same absence of cough air blast will exist. Such an acquired condition will be much the same as that already described.

When the bronchiectatic area presents no gross parenchymal changes in the lung, the bronchus to the diseased area can be occluded or surgically divided (Figure 1c) and in spite of the lack of bronchial communication the lung parenchyma will inflate completely as will the remainder of the normal lung when the anesthetist applies positive pressure to his intratracheal tube. This is the collateral air drift described by Van Allen[30] and repeated by Churchill.[29] The complete inflation of the lung parenchyma surrounding the bronchiectatic area will be slower than the inflation of normal areas of the lung. It is evident that the lung parenchyma in the bronchiectatic area must fill by alveoli communicating by pores.[15] When the lobe is well fissured and there is bronchiectasis of all segments of the lobe the lung parenchyma is usually airless. The condition of the lung parenchyma about a bronchiectatic bronchus seems to depend upon the function of the alveolar pores. This is another way of saying that the collateral air drift is present or absent. Thus, airless lung parenchyma about a bronchiectatic bronchus is the result of the absence of alveolar pores or the presence of abnormally functioning alveolar pores resulting from acquired disease or congenital abnormality.

There is no completely logical or accepted explanation as to why the bronchus should dilate instead of contract as most infected organs do. Other organs of the body dilate only because of obstruction to their outflow. Bard,[8,9,10] of course, considered bronchiectasis from the standpoint of idiopathic dilatation of the glandular and cavitary organs, independent of wall injury or mechanical interference. Kartagener[31] supported this theory by showing there were diverticula or dilatations in at least one other organ in 35.1 per cent of 649 cases of bronchiectasis studied at autopsy.

The present work is from the observation and study of 109 private patients with bronchiectasis. There were 37 men and 72 women. The majority of the patients were between the ages of twenty and fifty years, with rather equal distribution in the third, fourth, and fifth decades. In the group there were 99 who had essentially unilateral disease and only ten who had bilateral disease. It is difficult to ascertain the duration of the symptoms since 41 of the group could not furnish this information. It is interesting to observe that only seven were certain the symptoms were of one year or less in duration! Thirty-nine patients, however, reported having symptoms seven years or longer. It is noteworthy that only five of the patients denied the presence of cough and the same denied expectoration. In these hemoptysis was the symptom that caused them to seek medical attention. There was history of hemoptysis in 60 of the patients and only 18 had pleurisy. Dyspnea on exertion was present in 15 patients and only 8 complained of dyspnea most of the time. Surgery was carried out on 72 patients;

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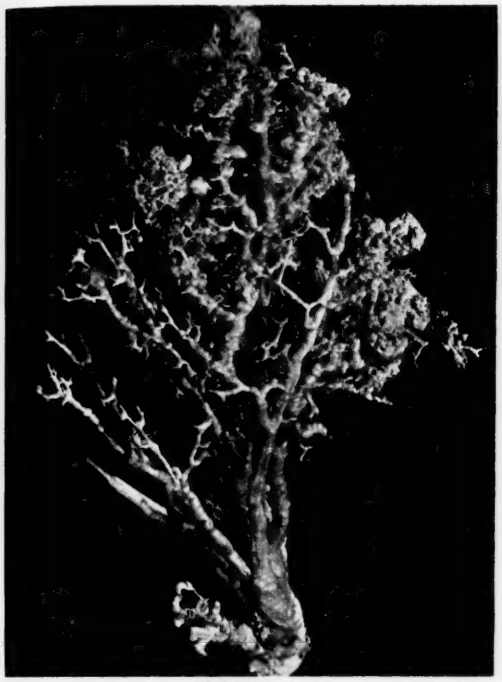

FIGURE 2

(a) A photograph and *(b)* an illustration of the same normal lung specimen. The specimen was prepared by injecting the bronchus with plastic material; the tissue was digested away leaving only a cast of the bronchi and its alveolar communications. Note that plastic material has entered the alveoli; compare it with Fig. 3 that shows a bronchiectatic lung specimen that was prepared in an identical manner. The plastic material did not enter the alveoli of the bronchiectatic specimen. Also note the absence of stricture formation at the branching of the bronchi and compare it with the strictures at the site of bronchial branching in the bronchiectatic specimen shown in Fig. 3.

FIGURE 3

(a) A photograph and *(b)* an illustration showing a bronchiectatic lung specimen. The specimen was prepared by injecting the bronchus with a plastic material. The tissue was digested away leaving only a cast of the bronchi. Note the absence of alveolar filling. There are strictures present at the branching of the bronchi. Compare with Fig. 2 a normal specimen that shows alveolar filling and no stricture of the bronchus at the site of their branching.

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of these 19 operations were performed on the right side, 43 on the left, and 10 were bilateral. Only diseased segments of the lung were removed when possible; however, in 10 patients the disease was severe and extensive but unilateral. In these pneumonectomy was necessary. There were two operative deaths; one resulted from a pulmonary embolus arising from phlebothrombosis of the leg, and one was an anesthetic death before the operation was completed. There was no bronchopleural fistula or empyema among the group. No major postoperative complications followed, except for the pulmonary embolism that resulted in sudden death. The follow-up study has been most disappointing since only 43 patients have been traced. Of these eight have continued with minor cough and expectoration and all are associated with paranasal sinusitis that has never been controlled completely although treated by competent otolaryngologists. None has been subjected to additional operations.

The pathology of bronchiectasis is one of bronchial dilatation with varying degrees of destruction of the bronchial walls by infection or by scarring. There is reduction in the elastic fibers in the bronchial wall. The degree of infection determines the extent and depth of tissue destruction, the extent of mucous membrane erosion, the amount of and character of granulation tissue, and the nature of the bronchial obstructions. The microscopic study reveals no characteristics except perhaps peribronchial lymphocytic infiltration. Grossly the lung parenchyma may be normal or it may be completely atelectatic, hard and firm. Whether the lung parenchyma is normal or airless probably depends on collateral air drift or functioning alveolar pores. When all bronchial segments of a whole lobe of lung is involved by bronchiectasis the parenchyma is usually airless. (Figure 4) When the lung parenchyma is normal in appearance the secretions in the bronchiectatic bronchi can be palpated and will be evident by the finding of crepitation of the fluid. This is the best single finding that the surgeon has to guide him to the diseased segments of bronchi. Examination of the bronchi shows relative stricture at the branching of the bronchi. (Figures 2, 3) There is no logical explanation of this finding, but once established it acts as a definite stricture for the distal bronchi. In well-established bronchiectasis the pulmonary artery is smaller than normal, the pulmonary veins are of normal caliber, and the bronchial arteries are usually greatly enlarged. There may or may not be pleural adhesions, depending upon whether or not there was past pleurisy. The bronchial dilatations may be cylindrical, saccular or cystic in character. If the disease is ever reversible it is of the cylindrical type. There is no doubt the basilar segments of the lower lobe of the left lung are the most frequently involved. The characteristic areas involved by so-called primary bronchiectasis in order of frequency are basilar segments of the lower lobe of the left lung, the basilar segments of the lower lobe of the right lung, the lingula and the middle lobe. However, any segment of either lung may be involved, especially by secondary bronchiectasis. The posterior superior segment of either the lower lobe of the right or the left lung characteristically is not involved by primary bronchiectasis; however, in secondary bronchiectasis caused by tuberculosis this is a common site of involvement.

The complications of bronchiectasis such as brain abscess, lung abscess, pneumonia and empyema occur infrequently owing to the extensive use of antibiotics in the treatment of all infections of the upper respiratory tract and lungs.

The symptoms of bronchiectasis vary from none in the uninfected or dry type to complete debility with constant cough, copious expectoration, fever, anorexia, weakness and weight loss. These symptoms are, of course, the result of infection. The classical symptom complex includes cough with slight expectoration of purulent material and recurrent attacks of fever occurring in a person who appears rather healthy. The cough characteristically is aggravated upon arising from bed in the morning, by exertion, and on retiring in the evening.

It is extremely important to point out that the extent of bronchial disease and the degree of dilatation do not necessarily determine the severity of the symptoms. Apparently the virulence of the infection determines the severity of symptoms. A subsegment involved by bronchiectasis and infected with virulent organism will produce disabling symptoms, whereas often there will be no systemic reaction to bilateral widespread bronchiectasis that is free of infection or is infected by innocuous organisms.

Hemoptysis is more common in the dry type of bronchiectasis[32] and is more likely to be profuse in this type than in the infected type with purulent expectoration. Chest pain is not uncommon and is usually the result of pleurisy. Foul odor is much less frequent since the wide use of antibiotics. The presence or absence of odor does not seem to influence the severity of the disease.

The physical findings are variable and depend upon the severity of infection and the amount of secretions in the tracheobronchial tree. A quick change in physical findings is suggestive of bronchiectasis and is the result of shifting or elimination of the bronchial secretions.

The clinical history of a productive cough made worse on arising from bed in the morning, by exertion, and upon reclining, combined with recurrent

attacks of fever, should lead to a presumptive diagnosis of bronchiectasis. If these symptoms are associated with a chest that presents normal physical findings and whose roentgenogram is normal the patient is almost certain to have bronchiectasis. Peribronchial thickening and a patchy parenchymal infiltration at the base of the lung revealed by a roentgenogram of the chest are highly suggestive of bronchiectasis.

The use of iodized oil in bronchography was introduced by Sicard and Forestier[33] in 1922. That was the time when accurate clinical diagnosis began. Bronchography is the only method of making a positive diagnosis. Diagnosis by bronchography, however, is no better than the extent of visualization of the bronchial tree. If a segment or subsegment is not visualized it may be the site of bronchiectasis. (Figure 5) The mere manifestation of dilated bronchi by bronchography is sufficient to arrive at a diagnosis of bronchiectasis. However, a demonstration of the whole bronchial system, with accurate localization of the exact segments involved, is necessary if the patient is to be given the advantage of surgical treatment.

Bronchography is best accomplished by the radiologist who not only understands his physical roentgenographic equipment but who has a thorough knowledge of the tracheobronchial tree .It is important to have the tracheobronchial tree free of secretions and adequately anesthetized. Usually it is best to visualize both sides at one time. The iodized oil should not be warmed and enough should be used to accomplish complete visualization of all segments and subsegments of all lobes on both sides. The bronchi should not be overdistended with oil and iodized oil should be kept out of the alveoli. Fluoroscopy as well as a generous number of films taken in several positions are necessary in order that a composite picture of the entire tracheobronchial tree can be pieced together. It is extremely rare for one roentgenogram to show all segments and subsegments on a single side of the chest and surely it cannot be expected to visualize both sides. This fact makes it difficult to publish photographs of bronchograms that convey the true nature and extent of bronchiectasis.

Bronchiectasis must be differentiated from all chest diseases that are associated with infection, cough, expectoration, or hemoptysis. It is often a complication of lung infection, especially pyogenic abscess, and tuberculosis. These diseases may occur simultaneously. In the middle and older age groups hemoptysis from otherwise symptomless bronchiectasis must be differentiated from carcinoma. It is unusual for carcinoma to cause bronchiectasis because it grows too rapidly; however, carcinoma can be superimposed on bronchiectasis. Benign tumors of the bronchus, such as a small adenoma, may cause the development of bronchiectasis.

The prognosis depends upon the degree of bronchial destruction and the method of treatment. When there is minimal dilatation without definite deformity of the bronchial wall there is a possibility that the cylindrical type may return to normal if repeated infections are eliminated. This is especially true in children. However, if there is considerable dilatation or deformity of the bronchial wall it is unlikely that treatment will cause a regression of the disease. The primary type is more inclined to spread and become more extensive. The secondary type is likely to remain localized. However, virulent infection of either type tends to cause spread of the disease whereas elimination of infection may keep it localized. Medical treatment can be expected to hold in check both the symptoms and extent of the disease. If the disease is minimal and of the cylindrical type, adequate medical treatment may permit it to regress to a normal state.[34] It is important that all pulmonary infections and particularly atelectatic involvements of the lungs in children and adults receive continued medical treatment until all signs of pulmonary infection or atelectasis has been eradicated. If such a plan were followed perhaps a great many cases of bronchiectasis would be avoided.

Extirpation of the primary type is generally followed by a minimum of cough and expectoration; it is uncommon to be entirely free of cough. Continuation of the cough is caused usually by chronic paranasal sinusitis and not by bronchiectasis that was surgically overlooked. Whenever the patient develops an upper respiratory infection acute bronchitis is the rule rather than the exception, and if it is not properly treated it will result in chronic bronchitis that may be mistaken for bronchiectasis. The patient who has had primary bronchiectasis is prone to develop bronchitis.

Where surgical excision has been carried out for a long standing primary bronchiectasis the patient may neglect an associated paranasal sinusitis and a persistent acute or chronic bronchitis. Since his general physical well-being is greatly improved by the excision a little cough or expectoration does not bother him. Persistance of minor cough and expectoration is more apt to disturb close friends and relatives than the patient. Such patients should have constant and repeated instructions in the care of chronic sinusitis and be encouraged to look after persistent acute or chronic bronchitis.

After the extirpation of secondary bronchiectasis where there is a definite causative factor such as a foreign body, lung abscess, healed tuberculosis or other definite disease, the patient is usually free of all cough and expectoration. When he gets an acute upper respiratory infection, acute bronchitis does not ordinarily develop. These patients are not prone

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to develop bronchitis. There is no associated paranasal sinusitis.

After surgical extirpation one does not expect the development of new areas of bronchiectasis in secondary bronchiectasis. However, in primary bronchiectasis the continuation of cough and bronchitis, even though from infected paranasal sinuses, may conceivably result in the development of new areas of bronchiectasis. Since infection plays a prominent part in the etiology of bronchiectasis it is reasonable to believe the patient is less likely to develop new areas of bronchiectasis if old infected areas are removed.

A rather careful search of the literature for a follow-up study of surgically treated bronchiectasis based upon postoperative bronchography has been fruitless. Accordingly, there is available little accurate knowledge concerning the development of new areas of bronchiectasis after surgical extirpation. Rosemond[35] has reported upon this phase of the disease. The author has found it impossible to get the surgically treated patient to submit to bronchographic study unless there is a persistence of symptoms. Bronchographic evidence of progression to new areas is found when the original disease has not been treated by surgical excision.

There is the palliative or medical treatment that consists of appropriate antibiotic therapy systemically and or by topical application through inhalation. Bronchial drainage by bronchoscope, postural drainage, and systemic or local chemical bronchial dilators are important methods of treatment and often all three methods are employed concomitantly. The general health and nutrition should be improved or preserved. Medical management is suggested where the disease is too extensive for surgical removal. It is indicated where for reasons of age or other conditions surgery is contraindicated and when there is a possibility that the disease may regress. It is also highly important in the preparation for surgical excision.

The curative treatment is surgical excision and in the treatment of bronchiectasis the application of the technic of segmental resection reaches its greatest usefulness both in scattered unilateral and bilateral cases. The surgeon must be careful to remove only the diseased segments: he must jealously preserve normal lung tissue. It is now extremely rare to find bronchiectasis so extensive that it cannot be excised. The diseased segment often is smaller than normal and is a nonfunctioning segment, therefore its removal will relieve the symptoms and not impair pulmonary function so long as pleural complications are avoided after surgery. Segmental resection makes the treatment of bilateral bronchiectasis safe and desirable.[36,37] Where the disease is of long standing and of secondary type the healthy lung often becomes overdistended and occupies a larger than normal volume, therefore the disease can be removed with no impairment of pulmonary function. The surgeon must not sacrifice a normal pulmonary segment. The superior dorsal segment of the lower lobe is rarely involved and should always be saved unless disease in it is definitely demonstrated.

In the future, surgical treatment of bronchiectasis will be supplanted only through improved diagnostic methods which encourage intervention during the period that the pathologic changes in the bronchi can be halted and even reversed to the normal condition. It is in the wake of the acute infectious diseases of childhood that our greatest advances in the treatment of bronchiectasis can be made.[38]

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MEDICINE AND THE BIBLE*

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SOMEONE TOLD ME a while ago that it took a lot of nerve or courage to talk about the Bible. I feel, however, that it is a safe subject. Most of you know little or nothing about the Bible, and if something were wrong, I doubt if you would recognize the error. That is probably true for the Hebrews as well as the Christians who are present.

I have been interested in the pathology of the ancients for years. What we are actually trying to do, is to reconstruct the course of diseases over the ages, from several points of view.

There is one thing to remember when interpreting literature; always put yourself in the framework of the time in which the story is written. Then, I think you will be less critical, more humble, and not make the mistake of underestimating the intelligence of the ancients.

After we have studied the literary remains, we go out into the area and dig. An endless amount of pathology has been found in the graveyards of Egypt. The bodies found are well preserved, from the point of view of the bony structures, the skin, and many times the internal organs.

We can re-hydrate the tissues rather well, so that microscopic sections of them can be made which don't look too unlike a specimen; a slide prepared three, four, five or ten years ago, the stain will be a little weak or faint, but the morphology can be determined.

Now, bear in mind that we are also interested in other things. We are also trying to study the cultural and social fabric of the peoples who are mentioned in the Bible. By studying their social and cultural fabric we are able to determine how they handled their sick and their dead. There isn't a single force greater than the impulse of human affection.

I am sure all of us stand on the foundation of the Judeo-Christian ethics, and that is the reason I believe we can learn much from the people who are responsible for our Bible. They have given us so much, and yet we have hardly approached the ideal or pattern set before us by the ancient prophets, who reached their zenith in the New Testament.

Another important thing to remember when you are interpreting various passages, is what the ancients believed: that disease sooner or later followed sin. However, today we look for the fundamental processes behind the scenes. No medical school teaches that disease is the result of sin.

If you assume that disease follows sin, then your next premise, of necessity, would be to offer a sacrifice or an appeasement to the angry god.

That is exactly what the ancients did. In the case of tuberculosis, pneumonia, ulcer or tumor, the ancients did not seek a natural cause. They sought the priest. In this way they hoped either to be cured or protected from the malady, whatever the case might be. Surprising as it may seem, this belief lasted well into modern times. And, it was the confusion of magic and religion with healing that helped retard medical progress for years.

Our gross pathology is quite abundant in our findings. We have seen a great deal of evidence of diseases of the bones, as tumors, malignant and otherwise. We have also seen a great deal of evidence of diseases of the skin.

Incidentally, since the word leprosy has been used to designate the disease in Leviticus XIII and XIV, much confusion has been caused. The confusion has been brought about by the Latin word *lepra* because it was originally used in two distinct senses. When the word *lepra* was used to denote a mere skin disease it was synonymous with the Greek *lepro*, the meaning of which is rough or scaly. The Old Greek version of the Pentateuch translates the Hebrew *tsara ath* by *lepro* of the Greek medicine. Now probably you can understand why the leprosy of the Bible, is not the disease we know as leprosy today. We never see a leper who has a lesion that is "white as snow."

A mummy has been found who died at the height of his smallpox, with the confluent vesicles, and all other changes you may be familiar with, if you have seen smallpox in the living today.

We have repeatedly found bladder stone, and probably not always as a result of the Egyptian

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schistosoma, bilharzia, but from other causes too.

Many of these diseases are very old. Let me read a few interesting passages from the Bible. As you look at them through medical eyes, entertain in your own mind what the writer is talking about. You, as physicians, are at a better advantage than the average layman who hears the same passages from a pulpit.

I will read from the book of Luke. As you know, St. Luke has been called the beloved physician; however, his book is not the language one would expect from an individual who attended a medical school. And, remember there were good medical schools in Egypt and in southern Greece over 300 years before St. Luke was born. When he draws a medical picture he uses few strokes, but bold ones, and the average third-year student in medicine would recognize it.

The following is an incident of Christ in the Synagogue. "Behold, there was a woman which had a spirit of infirmity eighteen years."[1] St. Luke picked the patient correctly, for this disease is far more frequent in women than in men. It wasn't a malignant disease nor was it tuberculosis. And remember there is evidence of a lot of tuberculosis existing at that period of time. It was, however, a disease of eighteen years, and apparently not of a vital organ. Then he gives it away.

"And was bowed together, and could in no wise lift up herself."

You have probably already recognized the disease as arthritis. The peripheral joints are involved, and she is bowed together, she couldn't lift up herself. That is the usual distribution in women, although it does, at times, occur in men. Men however, are far more prone to get the vertebral joints in trouble, rather than the peripheral joints.

We have found arthritis in Egypt, and in the eternally dry hot climate of middle Egypt, just as frequently as we have found it over the United States and North Europe.

Another instance in St. Luke, will give you an idea of how we interpret passages. Again, Christ was in the synagogue talking to a group.

"Behold, a man cried out saying: Master, I beseech Thee; look upon my son, for he is my only child."[2] What would be your reaction? The first thing you would say, would be: "Tell me something about him. What happened?" And I am sure that question was asked, because we have the answer to such a question:

"Lo, a spirit seizes him and he crieth, and then he foameth, and he bruiseth himself." Mark[3] cites this same instance by saying: "Sometimes he falls into the fire, and sometimes he falls into the water."

[1] Luke 13, 11
[2] Luke 9, 38
[3] Mark 9, 18

That is all we need to make a diagnosis of epilepsy. Do you know of any gadget that is of any help that Luke didn't have? The only thing that is lacking is the electro-encephalogram, and it was a little early for that. But, we still make the diagnosis by asking: "Did you ever hurt yourself? Did you ever bite your tongue, or fall down?"

Why do we ask that? Because, in medicine, we realize that in the hysterical convulsions of man or woman, they never fall without an audience or where it hurts. They are demonstrating.

At that period of time, the ancients believed God sent messages through these victims to the people on earth. And so, they seated someone beside him to jot down whatever he said no matter how incoherent, when he was coming out from the convulsion.

Mark gives an interesting commentary on medical practice, and I mention this because we frequently hear the same thing. How expensive medicine is: "And she had suffered many things of many physicians."[4] That is not unfamiliar, I know. Mark continues:

"And had spent all that she had on physicians." Then adding, "and was nothing bettered." And finally gives us a good slap with: "But she rather grew worse." I am sure we have all had that happen.

There are a great many references in the Bible, particularly in the Book of Proverbs, to the psychosomatic problems. There is nothing new in psychosomatic medicine, insofar as the actual practice of this branch of medicine is concerned. At present it is more clearly defined, but, we must concede its early origin. It has been practiced since man became a thinking creature. What are probably the basic or essential facts of psychosomatic medicine are effectively expressed in the Book of Proverbs.

"Hope deferred maketh the heart sick: but when the desire cometh, it is a tree of life."[5]

"Hope deferred." Isn't that frustration? That about which we worry? Over and over again we find that worry alters physiology. You know it, and so do I. Today, we don't use such simple terms as "Hope." However, it is perfectly adequate, in my opinion. We find instead of hope the term used in modern psychologic and psychiatric literature is "emotional support." Is this an improvement? Fewer people understand it!

There is one thing about the Biblical references that impresses me no end, and that is the fact the ancient Hebrew never kept his skeletons in the closet. When something unpleasant happened to his family, heroes or heroines, he never whitewashed the facts. The Bible is a record of a people. They lived, much the same as you and I. Can't you

[4] Mark 5, 26
[5] Proverbs 13, 12

picture the following quotation as the basis of altered physiology?

"Better is a dry morsel and quietness therewith, than a house full of sacrifices, with strife."[6]

"Better is a dinner of herbs where love is, than a stalled ox and hatred therewith."[7]

Doesn't that express it? The author also expresses it another way: "Better is a dinner of herbs, where love is, than a fatted ox and hatred therewith."

You know how true that is, and also that you can't express it better in any language.

What did you think about when you finished the physical examination of a patient? You were trying to rule out organic disease, which is the first demand on the part of the patient. After you felt you had ruled it out completely, you began to wonder, where is the trouble? Does it exist in the home, or is it where he works?—Where is the conflict? Where is the frustration? Where is the bickering? Where is the fighting? The man comes home with a good appetite, and a cross word is heard, or an argument ensues, his appetite is gone. These ancient people have all lived through that. Can't you picture them having an ulcer, as we know it today, essential hypertension, whatever that means, or fluctuating pressure, all as the result of something occurring in their home?

And, if as the orthopaedists and surgeons tell us, that most accidents happen in the home, then how much more true it is that the most emotional assaults and injuries also happen there.

Perhaps we do not think about that phase of it, because they don't immediately cause a dramatic manifestation.

Let me read you another verse, and remember I didn't write this: "It is better to dwell in the wilderness than with a contentious and angry woman." That man lived, or he thought so!

This was not written by a woman because in my experience, I don't know whether or not it agrees with yours, I have seen and have been impressed constantly with the loyalty of women to their moral responsibilities. They spend twenty-four hours in their homes, whereas the man is out for eight or ten hours a day.

And, another thing, when we have a male patient with a colostomy, the family remains intact. However, if it is a woman, and the figures in Baltimore bear this out, there is more likely to be a divorce or separation. That never fails to impress me.

Again, there is the tremendous impulse of human affection, which surpasses any power that I am aware of today.

So that when I read this in Proverbs, I know that these people were like you and me. If they had feet of clay, they also rose to the heights. True, they were pock-marked, and most of them had all the diseases and the emotional instability that you and I are familiar with. We have good written records of such occurrences.

Before finishing, let me cite another interesting passage. This verse is found in the Book of Ezekiel. If you don't know your prophets, study them, because they are ethical as well as cultural giants, the best the world has ever produced.

On this occasion, Ezekiel was down in Babylonia. There, the King who was at the head of two ways was uncertain as to what he should do. And has this to say: "For the King of Babylon stood at the parting of the way, at the head of two ways to use divination: he made his arrows bright and he consulted with the images, he looked into the liver."[8] What do you think that means?

In the ancient days, when the doctor went to see his patient, the counselor or advisor for the family was asked about the prognosis. They did not care what Latin or Greek name was given the disease. These people were interested in what you could do about it. After the doctor finished his examination, he said: "Bring me in the liver."

The head of the household would kill a little lamb or goat, and bring the liver in on a platter. The liver of either a human or an animal contains 25 per cent of the blood, at any given time. Now, picture in your mind's eye, the body heat as vapor arising from it and a change of color taking place as a result of oxidation of the blood. The doctor would have a mental picture of a liver, or have a clay model of one beside him. Over the dome of these clay models of the liver were inscribed rectangles. Within each rectangle, in cuneiform, was the significance of the change of color inscribed. By comparing the actual liver with that of the model, the doctor made his prognosis. However, if your forefathers came from Northern Europe, they didn't look into the liver, but rather killed a bird, a pigeon or a chicken, then removed the intestinal tract. They based their prognosis on whether the peristaltic motion was rapid or slow, toward or away from the stomach.

Let me close with these fine passages. You should know them whether you are a doctor or not. Beside the medical interpretation of his work, we all have a stake in what the author is talking about:

[9]"Remember, now, Thy Creator in the days of Thy youth, while the evil days come not, nor the years draw nigh, when thou shalt say: I have no pleasure in them.

"While the sun, or the light, or the moon, or the stars be not darkened, nor the clouds return after the rain: In the day when the keepers of the

[6] Proverbs 17, 1
[7] Proverbs 15, 17
[8] Ezekiel 21, 21
[9] Ecclesiastes 12, 1

continued on next page

house shall tremble, and the strong men shall bow themselves, and the grinders cease because they are few, and those that look out of the windows be darkened.

"And the doors shall be shut in the street, when the sound of the grinding is low, and he shall rise up at the voice of the bird, and all the daughters of music shall be brought low.

"Also when they shall be afraid of that which is high, and fear shall be in the way, and the almond tree shall flourish, and the grasshopper shall be a burden, and the desire shall fail because man goeth to his long home and the mourners go about the street.

"Or ever the silver cord be loosed or the golden bowl be broken, or the pitcher be broken at the fountain, or the wheel broken at the cistern."

Those of you who belong to certain organizations probably recite that. Do you know what you are talking about?

Let us look at it through medical eyes. We do know that the author is talking to young people. "Remember, now, thy Creator in the days of Thy youth. . . ." You should think of your God, then, not when all these subsequent things happen to you. And he goes on:

"Remember, now, thy Creator in the days of Thy youth, while the evil days come not, nor the years draw nigh, when thou shalt say: I have no pleasure in them."

Isn't that true in old age? There is hardly a month that goes by in any city hospital, when some old patient doesn't say: "I am ready to go when my maker calls me, I have lived a long while, brought up a family, and enjoyed life."

But you don't find that in young people, and too, we would think that it was a serious mental aberration if we heard them talk in such a manner.

"Remember now thy Creator . . . while the sun, or the light, or the moon, or the stars be not darkened, nor the clouds return after the rain."

That is lovely imagery. Let us look at it through medical eyes, and human experience. If something happens in a young person's life, it is comparable to a thunder storm, darkness and flashes of lightning in the distance, then torrential rains; however, within an hour or so, the storm is over. The clouds part and the sky is blue again.

Let something happen in the old man's life. Let him lose his wife, his job, or his savings. Can he go out and recapture them? You know he cannot.

How is it expressed here? ". . . nor the clouds return after the rain." There is no blue in the sky for the old man. The sky remains gray. And then the author becomes personal. The oriental and Biblical writers in particular refer to the body as the temple in which the soul dwells.

"In the day when the keepers of the house shall tremble, and the strong men shall bow themselves, and the grinders shall cease because they are few, and those that look out of the windows be darkened."

The keepers of my body and your body, obviously, are the hands, and when do these keepers of your house tremble? When do you get arteriosclerotic tremor, shaking, palsy, with increased frequency? As you grow older.

". . . when the keepers of the house shall tremble and the strong men shall bow themselves."

"And the strong men shall bow themselves."

We need a foundation, the same as this building does. The foundations of your body and mine are the legs; you know the bowing attitude of the legs in the older man, and when does it happen? ". . . when the keepers of the house shall tremble, and the strong men shall bow themselves, and the grinders cease because they are few. . . ."

When do your teeth fall out? You know the answer. Don't you see how personal the author gets in his description? His answer is medically correct, as we grow older.

Then he goes on and says that those who look out of the window will be darkened. If my body is that temple there are only two windows to that body, and they are the eyes. There is a perfectly good Hebrew word for eyes, but the oriental writer always loves good imagery; those eyes are the windows. And, when do you hold things farther and farther away? When do you get cataracts? As you grow older. The imagery is lovely.

"And the doors shall be shut in the street. . . ."

Now, if you wanted to keep the noise out of this building, you would close the door into the street. And, if I am talking about my body, there are only two doors in my body that admit noise within it, the ears. You know how the older people cup their ears in order to hear.

Then he adds the time when deafness usually comes on, namely, when the sound of the grinding is low, when the teeth have fallen out.

". . . and he shall rise up at the voice of the bird, and all the daughters of music shall be brought low."

Who gets up early in your house, the youngsters or the older people?

The reference to the daughters of music is the imagery used in the middle east for the night clubs —the daughters of music, the dancing girls, the cabaret girls. As we grow older, there is usually the waning of interest in this side of life; I am sure no night club in your city is attended by many of 70, 75 and 80 years old.

"Also when they shall be afraid of that which is high, and fear shall be in the way. . . ."

That is sound isn't it? It is the caution of the aged. For, remember, that without that caution,

you may never get to be an older man or woman.

". . . the almond tree shall flourish. . . ." That is the gray hair. And we also see the waning of sex, as we grow older. ". . . and the grasshopper shall be a burden and desire shall fail . . ." The grasshopper is a sex symbol and the final clause "desire shall fail" clearly refers to the sex desire. Remember, this was written before the days of hormones.

". . . because man goeth to his long home, and the mourners go about the street." After all of this happens we usually pass on. However, if you haven't passed on by this time, he adds another verse:

"Or ever the silver cord be loosed. . . ." We have to suspend judgment a bit on that, depending upon which framework of time you interpret it. But, in either event, it has something to do with coordination.

". . . or the golden bowl be broken, . . ." That is not the brain. There isn't a reference in the Old or the New Testament to the brain having a function. It is a curious thing; they saw skulls on the battlefield; they saw their animals' skulls bashed open too, but they never placed a function in the brain. The emotions, the spirit, the sentimental part of the individual was located most commonly in the kidney, and in less frequency in the liver. The term "melancholia or back bile" is responsible for the depressed spirit. Least frequently, it was the heart.

In any event, whether it is the kidney, the liver or the heart when the ". . . golden bowl is broken, . . ." it is near the end of the rainbow of life.

". . . or the pitcher be broken at the fountain. . . ."

The imagery and the context there suggests the organs of watery excretion. What produces water in our bodies? The kidneys. Not where water is collected, but the fountain producing it.

The next part should be interpreted along with this:

". . . or the wheel broken at the cistern." Where the water is collected and not produced—isn't that our problem in the aged, in the matter of retention in one and incontinence in the other. There is much lovely imagery in that classical prose.

After all of this has happened: "Then shall the dust return to the earth as it was; and the spirit shall return unto God, who gave it."

I wish the writer would have talked about the psychology of old men; but the man who caught that best was Oliver Wendell Holmes, a doctor in Boston, not many miles from here. He described a beautiful picture in his poem about an old neighbor who passed by the door every morning, when he took his walk:

And I saw him once before
As he passed by the door
  and again
The pavement stones resound
As he totters o'er the ground
  With his cane.

They say that in his prime,
E're the pruning knife of time
  cut him down,
Not a better man was found
By the crier on his round
  Through the town.

But now he walks the streets
And he looks at all he meets
  Sad and wan,
And he shakes his feeble head,
That it seems as if he said,
  "They are gone."

The mossy marbles rest
On the lips that he has prest
  In their bloom,
And the names he loved to hear
Have been carved for many a year
  On the tomb.

My grandmama has said
Poor old lady, she is dead
  Long ago
That he had a Roman nose,
And his cheek was like a rose
  In the snow.
But now his nose is thin
And it rests upon his chin
  Like a staff.
And a crook is in his back
And a melancholy crack
  In his laugh.

I know it is a sin
For me to sit and grin
  At him here
But the old three cornered hat,
And the breeches, and all that,
  Are so queer.

And if I should live to be
The last leaf upon the tree
  In the Spring,
Let them smile as I do now
At the old forsaken bough
  Where I cling.

DIAGNOSIS AND TREATMENT OF LESIONS OF THE SHOULDER*

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IF ONE IS to be successful in treatment of lesions of the shoulder, one must broaden one's concepts as to what constitutes the shoulder. The usual conception of the shoulder joint is the articulation between the scapula and humerus. Actually this constitutes but one-fourth of the whole shoulder joint apparatus. The shoulder consists of four joints. These are the scapulo-humeral, the acromio-clavicular, the sterno-clavicular, and the scapulo-thoracic. One readily appreciates that the first three are true joints. It is not as well realized that the motion of the scapula on the thorax actually fulfills all of the qualifications of a joint, and sometimes even the structural apparatus thereof. One has but to place a large bursa between the thoracic wall and the scapula, allow time plus wear and tear to ensue, and behold a joint is present. Even without the bursa most of the qualifications of a joint are noted. The definition of a joint is the juncture of two bony structures, together with their supporting ligamentous and muscular components plus blood supply, nerve supply and, where present, capsule, synovial lining and aricular cartilage. Any of these component elements may be absent.

If, therefore, the concept of the shoulder comprises the above four joints and their muscular structures (together with their nerve and blood supply), its attachment extends from the occiput to the sacrum and iliac crest. From the upper attachment of the trapezius to the distal attachment of the latissimus dorsi enervation is required. Any disturbance of this extensive area of enervation or any radicular phenomenon produced in the proximal nerve roots supplying this area may be extended or projected into the shoulder region. It is not, therefore, a phenomenon difficult of explanation that gall bladder symptomatology may be referred to the right shoulder and cardiac symptomatology to the left. Many forms of pathology proximal to the shoulder region besides these two may, and do, give rise to symptomatology projected into the shoulder region by the patient.

One might think that such a situation would make for great difficulty as to accuracy of diagnosis of local lesions in the shoulder! This is not so. It is relatively easy to denote which lesions causing shoulder pain are central and which are actually in or about the shoulder apparatus itself. True lesions of the shoulder apparatus itself give definite and localizing findings. When a patient complains of pain in the shoulder, yet on examination full range of passive motion of the shoulder apparatus is present without symptomatology, this fact alone will essentially exclude local shoulder girdle pathology. If in addition there is no localizing tenderness, mass or muscular atrophy, a lesion without the shoulder itself is assured as the cause of the projected pain.

From the above one can see that a rather extensive examination should be done in any puzzling case causing pain or disability referred to the shoulder.

Intrinsic Lesions of the Shoulder Apparatus

In an attempt to simplify and correlate lesions in and about the shoulder, one must first hold in mind that there are the above four joints with their supporting structures, their enervation and blood supply. Each one of these four joints is a separate entity and yet the four must act as a whole for a normally functioning shoulder. A lesion affecting any one of them affects the shoulder as a whole. Joint lesions may be classified in relation to either the structures involved or as to the etiology of the lesion. Classification by structures involved would comprise the following elements:

Osseous and cartilaginous
Muscular and tendinous
Bursal and capsular
Neurogenic, vascular and dermatologic

Classification as to etiology would include:

True congenital and developmental
Traumatic, infectious and toxic
Degenerative, metabolic and tropic
Neoplastic

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FIGURE 1

Congenital elevation of the scapula, brought downward, with the scapula derotated, greatly improving not only the appearance but the function of the shoulder. Many congenital lesions of the shoulder similarly respond to surgical correction.

With the commutations and permutations on a mathematical basis, considering the four primary joints involved, the structures comprising them and the different forms of etiologic factors, the number of pathological entities that could be present in and about the shoulder joint are multitudinous! Actually the situation is considerably simplified since certain lesions are so common as to become diagnostic entities. Furthermore most forms of pathology are easily and accurately diagnosed by examination or roentgenogram. Despite this, in puzzling cases, great confusion can and occasionally does exist. Frequently cases are impossible of diagnosis until late in the development of the condition present.

It is not often appreciated that postural change in the shoulder may cause considerable dysfunction and later fatigue stress pain. The true congenital lesion of congenital elevation of the scapula (Fig. 1) is not only unsightly but later produces marked disability through the rotation of the scapula associated with its elevation. Derotation and lowering of such shoulder girdles during childhood can promote much better function of the shoulder in later life. Birth trauma of all kinds occur producing late findings of pathology in the shoulder. So-called Erbs palsy actually is a fibrosis of musculature, a residual of an earlier partial paralysis of the brachial plexus which has, to a considerable extent, recovered. Surgical release of the tight structures involved immediately produces marked improvement, sometimes to normalcy. Developmental lesions such as congenital humerus varus (Fig. 2) may be derotated preventing late changes of disabling nature in the shoulder girdle. Only a few indications can be given within the scope of a paper such as this of the endless variety of abnormalities about the shoulder subject to satisfactory treatment by surgical rearrangement of the mechanical situation present.

Conditions about the shoulder of neurological origin, of course, produce drastic changes. Variation in dysfunction from the mild lowering of the spastic shoulder to the completely flail poliomyelitic one are encountered. Reconstruction may involve neurolysis, muscle or tendon transplant and even ankylosis. Neurotrophic condition, as produced by syringomyelia (Fig. 3) etc., may require resection of fragmented bone and of thickened, degenerated synovium to arrest the process.

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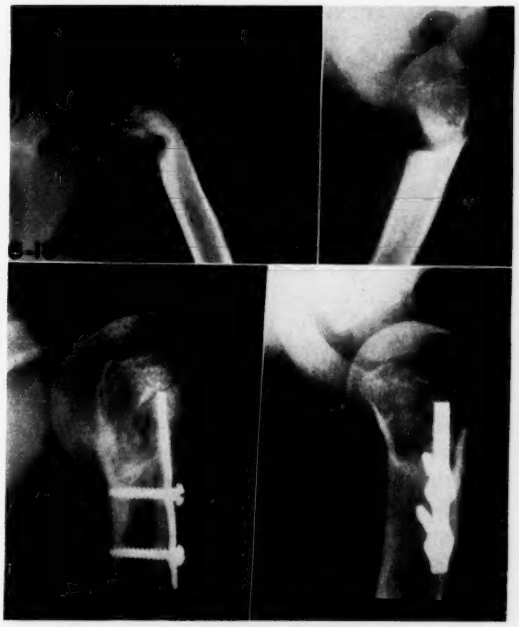

FIGURE 2

Congenital humerus varus which limited abduction shown corrected with rotational osteotomy and spline fixation.

FIGURE 3

After resection of the humeral head (in this instance for syringomyelia Charcot joint) satisfactory stability may result. Ankylosis is usually preferable.

Lesions of the bony structures comprising the shoulder in its broadest sense may be as many and as varied as are encountered in bony structures anywhere in the body. Infections of the clavicle may require local or extensive resections. Infections of the scapula can usually be more conservatively treated as to bony resection. Severely deforming end results of osteomyelitis of the humerus previously encountered are usually not now seen due to the use of antibiotics and appreciation that early bony drainage is indicated if rapid recession of findings does not occur with their use.

Tumors of the bony structures vary from the most benign osteochondromas (Fig. 4) through cyst formation and giant cell tumors, to the terrifically malignant sarcomas. These lesions may involve any of the three bony elements comprising the shoulder. Resection of the benign lesion with graft implantation where necessary usually results in excellent reconstruction. Shoulder girdle disarticulation may be necessary for the more severe lesions which either show imminence of surface break-through and ulceration or cause bony fragmentation and unbearable pain. Such disarticulation, where done for sarcomatous involvement, would be in the nature of a palliative procedure to stop pain and remove a local focus and should not be accepted as curative. When bone destruction due to sarcomatous involvement is appreciable in the roentgenogram, it is almost universally a rule that metastasis to vital organs has already occurred. Epiphysitis and osteochondritic involvement will usually recover under conservative care. Metabolic defects, however, sometimes produce such extensive change in bony outline as to later reduce function through blockage of motion.

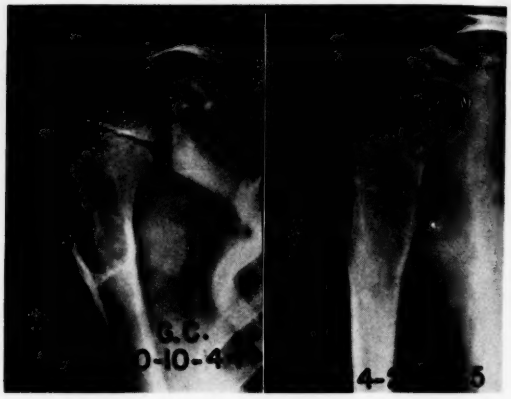

FIGURE 4

Local removal of even extensive benign tumors about the shoulder, such as osteochondromata, can markedly improve function.

That fractures about the shoulder may be frequently improved and results more nearly approach the normal through surgical restoration is not well appreciated. Considerable ingenuity is necessary plus a restraint in handling unusual situations. Fractures of the surgical neck of the humerus may be held reduced by the use of a bent spline (Fig. 5). Accuracy of reduction of clavicular fractures may be promoted by the use of an adequate plate fixation and union assured by additional iliac strip bone grafts applied at the time of reduction. Even fractures of the scapula (Fig. 6) may with advantage be surgically repaired. An illustration of this is plating of the axillary border in fractures of the body of this bone.

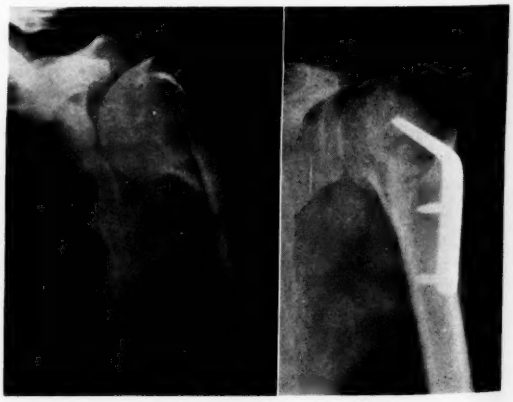

FIGURE 5

Certain fractures of the surgical neck of the humerus demand internal fixation.

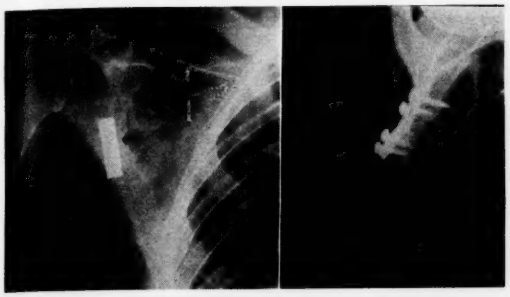

FIGURE 6

Even potentially disabling fractures of the scapula can often be approached, reduced and held by internal fixation.

Muscular, Tendinous and Bursal Lesions

Because of their frequency of occurrence and difficulty of diagnosis lesions of the musculo-tendinous cuff are of extreme importance. The accompanying diagram indicates the variability of the pathology found in such lesions. Codman of Boston originated the concept of the torn musculo-tendinous cuff and emphasized its importance.

Where such lesions are present their repair is essential if any approach to a normal shoulder is to be hoped for. A patient who is unable to lower his arm from the vertical without a sudden loss of control and drop of the arm as the greater tuberosity of the humerus passes beneath the acromion almost certainly has such a lesion. Exploration and proof of the lesion is easy, its repair is somewhat difficult. Where the whole of the cuff has been torn off, including all tendinous attachments, repair is usually unsatisfactory and a shoulder fusion should be primarily done as the operation of choice. Old tears wear out and do not repair since the tendon has little if any blood supply.

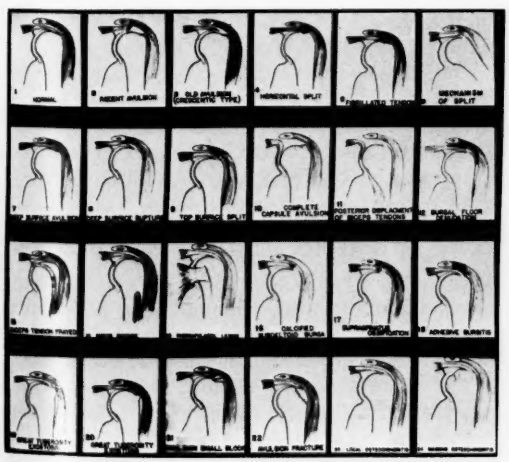

FIGURE 7

A multiplicity of lesions of the tendinous cuff and associated structures occur. Often the extent or location of the damage can only be determined at operation.

(Courtesy *Journal of Bone and Joint Surgery.*)

A waiting period of a week or two for observation of a shoulder with a suspected tendon cuff lesion is justified. Further delay merely decreases the opportunity for successful reattachment of the tendinous structure. Horizontal splits within the tendon and abrasions of the tendon may simulate for a few days the findings of an avulsion of the cuff. Recovery will gradually take place, making differential diagnosis possible.

Calcification of the bursa represents an original calcification within the tendinous structures which ruptured through into the bursa. Curettage of remnants of calcium in the tendinous cuff is generally indicated if recurrence of the symptomatology is to be prevented at later date. Laceration of the long head of the biceps is best repaired by attachment of the distal portion to the short head.

Adhesive bursitis, or frozen shoulder, is a self-limited condition which will generally recover in a year and one-half to two years. In the acute phase roentgen therapy may reduce pain. Thereafter continuous physiotherapy of external radiant heat and gentle stretching and massage is indicated. Partial force brisement may occasionally hasten recovery after the acute phase has completely subsided. Time is the main factor and while treatment can alleviate symptoms it does not seem to hasten recovery of motion.

Removal of exostoses about the greater tuberosity of the humerus may be necessary occasionally because of their impingement under the acromion. Avulsion fracture of the greater tuberosity should always be surgically treated. The avulsed fragment should be replaced. The roentgenogram does not provide a true picture of such lesions. Displacement of the fragment will always be found to be greater than one expects. Reattachment of these fragments should be at a lower level than the original site so that the repaired area may be removed from impingement under the acromion when motion is later reestablished.

Osteochondritic deformities where small may be surgically removed. Where large, these lesions will usually require shoulder fusion to regain stability and stop pain.

This brief review has been made mainly to intrigue the reader rather than to provide extensive knowledge. Reference to Codman's book on the shoulder and to publications of the author and others in the literature will provide the intimate facts concerning the shoulder suggested by the present talk. We would refer you to such material.

The RHODE ISLAND MEDICAL JOURNAL

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LOCAL PUBLIC HEALTH SERVICES

THE SPECIAL COMMISSION named by Governor Roberts to study methods of improving, strengthening and expanding the local public health services, has a very important assignment to complete before the end of the year if it is to explore the problem fully and report by that time to the General Assembly. Certainly this commission should get every possible support as it studies the scope of the present public health services.

Compact metropolitan Rhode Island has relied for the most part on the aid that can be given by the state health department to carry out public health measures in areas outside our metropolitan districts. For twenty-five years we have had legislation on the statute books that would permit our thirty-two towns to join with a neighboring community to make it financially possible to set up a full-time public health program, but the years have passed and no town has taken the initiative to carry out such a union.

As we read the resolution adopted at the recent session of the legislature whereby the present study commission was created, the thought is projected that consideration might be given to the establishment of district health departments in the various areas of the State. We presume the thinking here is that the district areas will represent those communities beyond metropolitan cities. Thus we could contemplate the area north from Scituate to Woonsocket, and south to Westerly as two sharply defined districts, and a third area down the eastern shore to Little Compton. These areas must include about a third of the State's population, and they include more than twenty-five towns.

Undoubtedly the cost factor will be paramount in the overall study by the Commission, and an ideal, or even what might be considered a proper health program for these areas, might represent an initial outlay and continuing expense that many of our smaller towns cannot, or will not be willing to assume. Hence the task facing the Commission, as we view it at this time, will be to find a happy medium in the scope of the services to be proposed. Necessary and vital services not now available have paramount claim. Additional services however commendable will have to be added at future times.

The interest of the average person today in health matters far exceeds the interest that existed twenty-five years ago. We feel certain that if the Commission finds weaknesses in our public health programs in Rhode Island a receptive audience will be found in our towns that will result in the stimulus necessary to effect the formation of union of districts for the community good.

THE OBSTETRICIANS EAT, DRINK AND ARE MERRY

There is one afternoon and evening in the year when practically no women take in labor in Providence. That is the July day when trustees of the Lying-In Hospital give a clambake to the staff. Vice versa the staff evens up the next year. Such parties as these are of the greatest value. There is nothing that lubricates personal relations better than food and drink.

The Providence Medical Association has realized this for many years when they have had a pretty reasonably large budget for their collations. In the past, occasionally some austere and abstemious member has spoken of this as a rather unnecessary expense. It is not so at all. What would some of us over in the Red Bridge neighborhood know about some excellent men in Edgewood or in the Mount Pleasant district if we did not meet them intimately in this way? We most naturally in our purely professional relations gather together in moderately small groups.

We are afraid that in many hospitals the trustees are regarded by the staff as a pretty punctilious and domineering group. They are, most of them, habitually autocrats in their own business, and possibly without really meaning to, bring over some of the attitude into the hospital. Perhaps it cannot be helped in some of the bigger hospitals, but most certainly it would be well if it were.

These thoughts are apropos of the usual delightful afternoon and evening that a number of us spent last month. The brilliant Chief of Staff of the Lying-In Hospital gives us a vivid picture of the party in the following lines:

From babes and laboring women free
The Staff has come down to the sea,

For clams and chowder, corn and fish,
Make for all men a welcome dish.

And so to work we've said Good-bye
This sunny day late in July.

Across from Bristol, lovely town
To Evert's bake we sit us down.

To Evert Freeman, perfect host,
In Juice of clam we drink a toast.

And to the Trustees, one and all.
Whose festive Poppasquashian brawl
Makes glad the hearts of these physicians,
Surgeons, male-midwives and pediatricians,

We give our deep and heartfelt thanks
As we sit feasting at these planks.

The clam is king, work is forgot.
The phone may ring, we hear it not.

We're full of lobster, Scotch and Rye,
Nothing before us has been passed by,

Chowder and fish, sherry and beer,
Make us happy to be here.

To thank you all for our good time
Is the sole reason for this rhyme.

MAJOR? OR MINOR?

When the National Bureau of Casualty Underwriters established a uniform program of physicians liability insurance rates a year ago, surgeons were distinguished from physicians and the classification was made on the basis of the doctor's statement as to whether or not he performs *major* surgery. It is taken for granted that every doctor knows what constitutes major surgery and what is considered minor surgery. But all such opinions depend upon the individual point of view.

The simplest and least hazardous surgery from an individual physican's point of view is a major procedure to most patients. Years ago Dr. S. S. Goldwater of New York made the point forcefully when he said that "a major operation is a severe or serious operation, not a slight or trivial one, but from comparatively trivial surgical procedure serious consequences sometimes result. The test lies in the gravity of the operation, which must be gauged not merely by the technical difficulty of the procedure, but by the risk to the patient; and in using the term risk I am thinking not only of the risk to life, but of the likelihood that any important bodily function may be impaired."

What is minor surgery? At best the term is vague and ill-defined. There exist no definite criteria by which to designate any one procedure as a minor or a major. What is a minor operation in the hands of a skillful physician may prove a major one in the hands of the unskilled physician. In no other field of medicine is there a similar division into major and minor procedures, and certainly it is to be questioned that surgery is divisible.

There is little in the way of legal precedent to guide the physician in this problem, and court interpretations would undoubtedly vary in accordance with the statutory construction presumed to have been understood by the respective State legislatures in drafting healing art regulations.

In imposing upon physicians the requirement that they declare whether they perform major surgery the insurance carriers are able thereby to collect a larger premium, but they render a disservice to the doctor at the same time. The burden of proof, legally will always rest with the physician, and if he is ill advised on the vague terms of major and minor surgery both his insurance protection and his training as a physician may be in jeopardy.

continued on next page

BOSTON MEDICAL LIBRARY

We recently received a handsome booklet with many interesting photographs and the story of the origin and growth of the Boston Medical Library.

Most of our doctors, we trust, are familiar with the handsome façade at 8 The Fenway, overlooking a pleasing park and lagoon. They are all welcome to use it, they will certainly get efficient and courteous service, and they can find many things of great interest besides the purely technical details which would usually lead them there.

Like a large part of worthwhile Boston the Medical Library originated way downtown. The first photograph shows the interesting old row of buildings of Hamilton Place, with the spire of the Park Street church standing on Brimstone Corner. Just as medieval looking is Boylston Place, with a hansom cab seen passing by the Common. The Library here was in the former residence of Dr. Samuel Gridley Howe, the Brown graduate who did so much for the blind, and his more famous wife, Julia Ward Howe.

Southeastern New England was a congenial place for lovers of literature, medical or otherwise, a century and a half ago. The Boston Medical Library came into being in 1805, while our Society chose a Librarian in 1812. Both of them lapsed into innocuous desuetude for a period of years, with the Boston Society turning its holdings over to the Boston Athenaeum in 1826 and our Society doing very little until Dr. Caleb Fiske gave a valuable collection of books in 1824. Although the Providence Medical Association began to take the leading English and American medical journals about 1850 and has kept it up since, both the Boston and the Rhode Island libraries began to assume a definite valuable form in the 1870's.

No wonder the Boston Medical Library has been a great success from the time when it was launched in its present form in 1875, for its leading sponsors were such great men as Dr. Oliver Wendell Holmes, Dr. James R. Chadwick and Dr. Henry I. Bowditch.

Our booklet tells us that it is the third largest medical library in the country in respect to catalogue holdings. Its present home was built in 1900. In 1930 a large stack wing was completed, and only a few years ago the Massachusetts Medical Society bought a private residence adjoining and has made its headquarters there. All these three buildings communicate and are really one now.

Oliver Wendell Holmes was its first president, from 1875 until 1888, and the main reading room, with his portrait and some of his library possessions, has been named in his honor. Those physicians who are interested in the history and broader aspects of medicine will find much of interest here, although many of the most interesting of the Library's possessions have necessarily been stored out of sight.

We have enjoyed reciting the analogy between our neighboring Libraries. Our relations have been pleasant and intimate through many years, although naturally Boston can give to us much more than we can reciprocate. All our members can use the Boston Library, and with the modern loaning system they may use it very easily without troublesome trips. Mrs. DeJong, our Librarian, is fond of telling of our pleasant relationships with Mr. Ballard, the Director, and Dr. Viets, the Librarian.

THE NEW ENGLAND JOURNAL OF MEDICINE, that great and ever delightful publication of the Massachusetts Medical Society, has its offices right in the building, an ideal arrangement.

Lack of funds has prevented the Boston Medical Library from utilizing much of its space, making much of its valuable collection difficult to use. They are out now to collect funds and remedy this situation. The Rhode Island medical profession wishes them success.

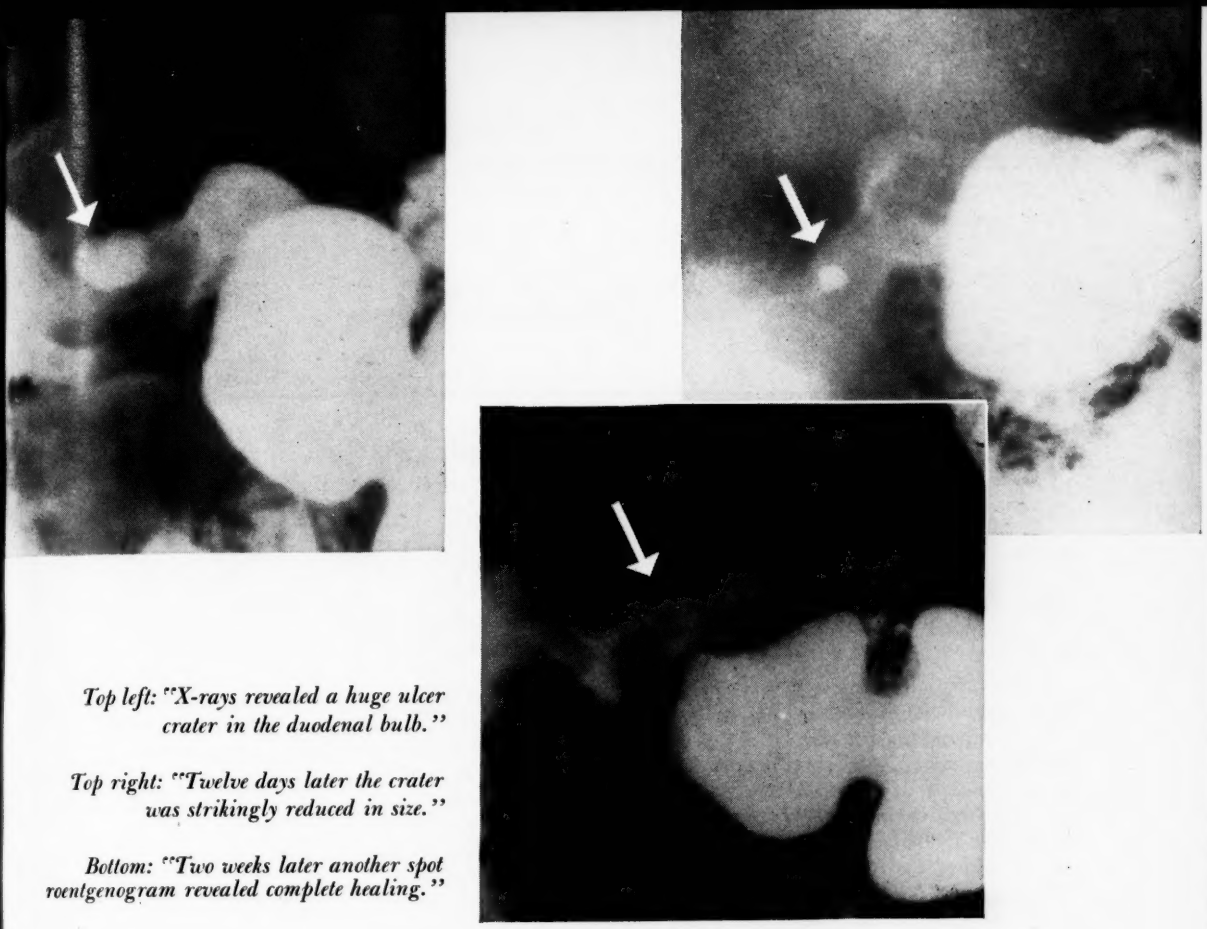
THE MEDICAL BUREAU

This month the Medical Bureau of the Providence Medical Association completes its fourth year of service to the profession and the public in the greater Providence area. Its work represents one of the finest programs possible to guarantee prompt physician services to the person in need of them.

With more than three hundred physicians directly connected to the Bureau board, and with an average of 2,500 to 3,000 calls daily, the telephone exchange that the Providence association established has now taken its place as the largest in the East directly under complete supervision of a medical society.

In its four years of existence the Bureau has not failed to find a physician to answer an emergency call, and that is a tribute to the efficiency of the Bureau as well as to the active support of the medical profession to cope with the requirements for real emergency service in our communities.

To the efficient staff of operators of the Bureau who have compiled an outstanding record through the years we extend our sincere congratulations.



Top left: "X-rays revealed a huge ulcer crater in the duodenal bulb."

Top right: "Twelve days later the crater was strikingly reduced in size."

Bottom: "Two weeks later another spot roentgenogram revealed complete healing."

Rapid Healing of Duodenal Ulcer with Pro-Banthine®

CASE REPORT

J. L., male, age 39, refused surgery even though roentgen study revealed a huge ulcer crater in the duodenal bulb (top left). He was placed on a Pro-Banthine regimen of 30 mg. four times a day. After twelve days of therapy the crater was strikingly reduced in size (top right).

Two weeks later another spot roentgenogram revealed complete healing (bottom). "This ulcer crater was unusually large, yet on 30 mg. of Pro-Banthine [q.i.d.] the patient's symptoms were relieved in forty-eight hours and a most dramatic diminution in the size of the crater was evident within twelve days."

Schwartz, I. R.; Lehman, E.; Ostrove, R., and Seibel, J. M.: A Clinical Evaluation of a New Anticholinergic Drug, Pro-Banthine, to be published.

Pro-Banthine (brand of propantheline bromide) is a new and improved anticholinergic agent with minimal or no side reactions.

Pro-Banthine inhibits neural impulses at both the sympathetic and parasympathetic ganglia and at the postganglionic nerve endings of the parasympathetic system. It is valuable in many conditions in addition to peptic ulcer, notably gastritis, pancreatitis, intestinal hypermotility, genitourinary spasm and hyperhidrosis.

Pro-Banthine is available in three dosage forms: 15 mg. sugar-coated tablets; Pro-Banthine (15 mg.) with Phenobarbital (15 mg.), sugar-coated tablets, for use when anxiety and tension are complicating factors; ampuls of 30 mg. for more rapid effect and in instances when oral medication is impractical or impossible.

SEARLE *Research in the Service of Medicine*

BOOK REVIEWS

CHILDREN OF DIVORCE by J. Louise Despert, M.D. Doubleday & Company, Inc., Garden City, N.Y., 1953. $3.50

Dr. J. Louise Despert is a physician who has had excellent training, many years of experience and is a recognized authority in the field of child psychiatry. Out of her wealth of experience in guiding both perplexed parents and confused children she has written "Children of Divorce."

There are quite a few children of divorce in these United States — about 1½ million of them and their numbers are increasing at the rate of 300,000 per year. Dr. Despert is disturbed by these statistics as any thinking, sensitive individual must be. These figures and their consequences in terms of juvenile delinquency and personal unhappiness are not pleasant to contemplate.

Throughout the book Dr. Despert makes use of a number of interesting, authentic case histories. The first two sections of the book are devoted to a discussion of the various ways children react to their parents' divorce and how mothers and fathers might handle these problems. The third and perhaps most worthwhile section of the book is concerned with a discussion of the divorce courts and the social agencies of the community.

Dr. Despert makes a strong case against the present legal methods of resolving problems of settlement involving children — custody and visitation, maintenance and the division of parental authority. "The path of wisdom," she writes, "does not lead through the courts, especially when your children's interests are at stake."

The courts need the advice and counsel of doctors who are trained in child behavior. In those few courts where individual judges make use of such consultation service, the needs of the children are better understood and protected. But for the most part, the handling of decrees involving the interests of children are made on legal grounds and the divorce laws are an antiquated structure hardly equipped to serve human beings in their deepest emotional struggles.

The publishers describe the book as follows: "A famous child psychiatrist shows you how to help yourself and your children through the special crises and everyday problems of divorce."

Actually, this is hardly so. Dr. Despert knows very well that people who lack the maturity to make a success of marriage can hardly be expected to learn the difficult answers of guiding their children through the emotional upheaval of their divorce simply by reading a book.

Successful parents seldom read or need to read books on child psychology. Many inadequate and insecure parents in an anxious, compulsive search for the right techniques of raising their children go from lecture hall to study group to book review to find the right answers. It is an oversimplification perhaps to say that the right answers lie in the hearts of mothers and fathers and not in their heads and can be found not by searching into books but by searching into themselves.

Anyone who has worked with emotional problems of children knows that giving parents advice and rules to follow seldom helps parent or child. To the extent that parents can be helped to acquire an insight into their disturbed relationship with their children (which invariably is derived from their early childhood experiences and relationships with their own parents) — to that extent can parents and children be helped.

CHILDREN OF DIVORCE will solve no vexing problems for parents contemplating divorce. For those councillors to whom families turn for guidance — the clerymen and the physicians; for the lawyers and the judges; for staff people from the casework agencies; for teachers — CHILDREN OF DIVORCE is recommended. It is written clearly and simply without the fault of being superficial. Dr. Despert has something worth saying and she says it well.

HERMAN B. MARKS, M.D.

CURRENT THERAPY 1953. Edited by Howard F. Conn. W. B. Saunders Company, Phil., 1953. $11.00

This book, CURRENT THERAPY, is to be highly recommended. It is a yearly book published by Saunders and edited by Dr. Conn. It covers practically every disease and symptom complex which we are apt to encounter in the practice of medicine today. This book very adequately covers on each disease and symptom complex an outline method of treatment both medical and surgical.

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BOOK REVIEWS

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One of the most interesting aspects of this book is the fact that under a good many of the conditions listed, and for which treatments are given, one is not given only one type of treatment by one physician but is given a choice of several types of treatment. This has proved very valuable in enabling the doctor who is using the book to evaluate the various methods of treatment and to arrive at a treatment which to him is the most satisfactory and to produce the best result. It is the type of book which one can keep readily available either on his desk, in his office, in his car or at home for quick and ready reference of the latest and most up-to-date type of treatment for any given disease or symptoms.

In this day of modern medicine we constantly have many new therapeutic tools made available to us and it is impossible for any one man to keep up with them all. CURRENT THERAPY does a very adequate job in bringing to us the latest and most up-to-date methods of treatment available at the present time.

The various treatments are each given by different men of various sections of the country, all of whom are prominent in the field of medicine and surgery. It is a book which can be well utilized at all times by both specialists and men in general practice and, once again, this book is to be highly recommended to all members of the profession.

ROBERT C. HAYES, M.D.

ENCYCLOPEDIA OF ABERRATIONS. A PSYCHIATRIC HANDBOOK. Edited by Edward Podolsky. Philosophical Library, Inc., N.Y., 1953. $10.00

This solid volume represents an informative, stimulating, and interesting compendium on human aberrations in various fields — mental, emotional, sexual, social, etc.

The fashion in which this work was compiled is rather unusual. Although the title states that this is an encyclopedia, some of the terms are defined tersely and precisely in a few words, which gives it more an air of a dictionary. However, some other subjects are treated differently: a whole article or paper is quoted from some publication, and the subject under discussion is analyzed fully as to its origin, manifestation, psychodynamics, and treatment. Therefore we might find a word like "anaphia," which is defined as "loss of the sense of pressure," but on the other side we also have some extensive articles on such important subjects as alcoholism, folie a deux, a most interesting and elaborate paper on body image disturbances, a new and original point of view on genesis of homosexuality (by Nathan Blackman, a psychiatrist in St. Louis.)

There are also detailed articles on addictions and intoxications by chloral, hashis, heroin, and marihuana, as well as papers on psychosis, schizophrenic process, manic depressive psychosis, and psychopathic disorders.

The authors have presented psychodynamics of many various sexual aberrations and an article on telepathy as well in an attempt to give it a scientific foundation.

Studies of psychology of nudism, of nuns' melancholy, of murder and suicide, lying and pornography are well presented.

They also have thrown light on such phenomena as boredom, amnestic syndrome, post-orgastic emptiness, malingering and many others. On the whole it does appear that the choice of giving more attention to certain aberrations was motivated by contemporary interests. Some other articles bring to our attention original and new viewpoints of aberrations that were not well understood in the past.

I would recommend this book to anyone interested.

SIDNEY S. GOLDSTEIN, M.D.

CLINICAL DIAGNOSIS BY LABORATORY METHODS by James Campbell Todd, Arthur Hawley Sanford and Benjamin B. Wells. W. B. Saunders Company, Phil., 1953. 12th ed. $8.50

The twelfth edition of this well-known textbook

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introduces a new co-author, Dr. Benjamin B. Wells, Professor of Medicine at the School of Medicine, University of Arkansas. He is the author of "Clinical Pathology, Application and Interpretation" and received his Ph.D. in Chemistry under Dr. Edward C. Kendall, recent Nobel prize recipient. The addition of a man with these qualifications assures the maintenance of the high standards for which this text has been known.

In this edition there are no drastic changes. The chapter on blood has received new treatment and the ones on urine and clinical chemistry have been brought up-to-date. The chapter on bacteriology has been revised to conform to the nomenclature of Bergey's "Manual of Determinative Bacteriology" and the technics of serological tests for syphilis published as supplement #22 of the JOURNAL OF VENEREAL DISEASE INFORMATION, United States Public Health Service is included with the permission of the Surgeon General of that service.

Though you may own a previous one, this twelfth edition is worthy of your consideration.

ESTHER E. BRINTZENHOFF, A.B.
East Side Clinical Laboratory

A DOCTOR'S SOLILOQUY by Joseph Hayyim Krimsky, M.D. Philosophical Library, N.Y., 1953. $2.75

This small volume, 116 pages, is a brave attempt to stress man's oneness with God. The mind of man cannot fully grasp or comprehend this but our knowledge is achieved by understanding His many manifestations in the world and universe about us. If religion and science are linked in source and purpose, the former must be through deeds rather than based on creeds.

The author also noted that science should be guided by and subordinate to religion as religion is the only solace that man can find in the great unknown. The author emphasizes the force of heredity which is inevitable as man plunges headlong into the greater complexities of life.

"The nucleus of the living cell holds all the phenomena of life on whatever level." Its nourishment and reproduction are basic functions. The author emphasizes that a normal God relationship should follow along with the normal human relationship in a well balanced way of life. He suggests that prayer maintains the awareness of God. Its purpose not being solely a catharsis; it is an intangible, never ceasing, always potential goodness of God. He also points out that technologically mental processes can never be outstepped by gadgets produced by science. Science cannot of itself be the sole remedy of man's difficulties. The soul must be freed from fear and hope, faith established in a power greater than oneself. Precision and harmony that exists in nature, including man, may be thwarted and threatened but never thrown off their ultimate course. He further points out that man's dominance lies in his personality which is made up of perception, reflection, intuition and instinct.

In concluding, he states that worse than the germ of disease is the germ causing the mind to be disturbed due to a lack of religious inspiration. The author feels that the body must yield to the great force of faith, hope and love with eternity as a goal.

This brief volume stimulates the thoughts of the reader and directs the mind to the giver of all life. While the author does not completely satisfy or answer the basic needs of us all, he does much to encourage the spiritual growth of the inner man which is sometimes neglected by the physician who is interested only in science. It is a worthwhile volume for any scientist's library and one that can be read several times before being completely appreciated.

LAURENCE A. SENSEMAN. M.D.

OPHTHALMIC PATHOLOGY. An Atlas and Textbook by Jonas S. Friedenwald and others. Published under the joint sponsorship of the American Academy of Ophthalmology and Otolaryngology and the Armed Forces Institute of Pathology. W. B. Saunders Company, Phil. 1952. $18.00

OPHTHALMIC PATHOLOGY in a handy book is a welcome volume for both general practitioners and specialists. For the men who have an occasional interest in this subject, here is a convenient size of volume to allow ready handling, whereas for those men who are consistently delving into particular problems this tome offers easy access to a wealth of information.

"As is your pathology, so is your practice," the text of the presidential address at the American Academy of Ophthalmology and Otolaryngology in 1952, expresses the basic belief of the authors. The individuals who took part in the evolution of

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this presentation have labored for years prior to this publication, which is still a forerunner of a text which will eventually give us all an excellent resumé of the combined efforts of world-minded scientists. Further cooperation in all directions will ease the work of those chosen few who have thus far accomplished so much.

The goal in this project is to utilize the wealth of material already accumulated since World War I. However, the men and money to date have been scarce. The ideal situation would be to have men, money, and material so organized as to put clinical facts, with history, physical examinations, and laboratory studies correlated with the anatomical specimens. Such an accomplishment is well within reach of our present-day setup.

OPHTHALMIC PATHOLOGY is worthwhile for all medical practitioners, as well as students, because it reviews the literature and is replete with references to sources for those who wish to pursue any special study in greater detail.

For all who would further their knowledge in this field of endeavor, one feels thoroughly justified in recommending each of you to use in your own library OPHTHALMIC PATHOLOGY.

F. CHARLES HANSON, M.D.

BRONCHIECTASIS

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The following books, thanks to the generosity of the publishers and the cooperation of those who added reviewing to already overcrowded schedules, have been acquired by the Library through the Rhode Island Medical Journal:

Advances in Medicine and Surgery from the Graduate School of Medicine of the University of Pennsylvania. W. B. Saunders Company, Phil., 1952.

Errett C. Albritton, editor — Standard Values in Blood. W. B. Saunders Company, Phil., 1952.

American Pocket Medical Dictionary. 19th ed. W. B. Saunders Company, Phil., 1953.

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Meredith Campbell — Clinical Pediatric Urology. W. B. Saunders Company, Phil., 1952.

Adelle Davis — Let's Cook It Right. Harcourt, Brace & Company, N.Y. 1947.

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Vincent J. Derbes and Thomas E. Weiss — Untoward Reactions of Cortisone and ACTH. Charles C Thomas, Springfield, Ill., 1951.

Ashton Graybiel and others — Electrocardiography in Practice. 3rd ed. W. B. Saunders Company, Phil., 1952.

Gifford's Textbook of Ophthalmology by Francis H. Adler. W. B. Saunders Company, Phil., 1953.

James D. Hardy — Surgery and the Endocrine System. W. B. Saunders Company, Phil., 1952.

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M. Beckett Howorth — A Textbook of Orthopedics. W. B. Saunders Company, Phil., 1952.

Olan R. Hyndman — The Origin of Life and the Evolution of Living Things. Philosophical Library, N.Y., 1952.

Joseph H. Krimsky — A Doctor's Soliloquy. Philosophical Library, N.Y., 1953.

Marcus A. Krupp and others — Physician's Handbook. 7th ed. Lange Medical Publications, Los Altos, Calif., 1952.

Simon S. Leopold — The Principles and Methods of Physical Diagnosis. W. B. Saunders Company, Phil., 1952.

George M. Lewis — Practical Dermatology. W. B. Saunders Company, Phil., 1952.

Louis S. London — Dynamic Psychiatry. Vol 3— Frustrated Women. Corinthian Publications, Inc., N.Y., 1952.

Ralph H. Major — Physical Diagnosis. 4th ed. W. B. Saunders Company, 1951.

Milton Millman — Pardon My Sneeze. Frye & Smith, Ltd., San Diego, Calif., 1952.

Donald Munro — The Treatment of Injuries to the Nervous System. W. B. Saunders Company, Phil., 1952.

Emil Novak — Gynecologic and Obstetric Pathology. 3rd ed. W. B. Saunders Company, Phil., 1952.

Operating Room Technic, by St. Mary's Hospital, Rochester, Minnesota. W. B. Saunders Company, Phil., 1952.

Ophthalmic Pathology. An Atlas and Textbook by Jonas S. Friedenwald and others, under the joint sponsorship of the American Academy of Ophthalmology and Otolaryngology and the Armed Forces Institute of Pathology. W. B. Saunders Company, Phil., 1952.

Hans Selye — The Story of the Adaptation Syndrome. Acta, Inc., Montreal, 1952.

Carl F. Shaffer and Don W. Chapman — Correlative Cardiology. W. B. Saunders Company, Phil., 1952.

Brain Surgeon — The Autobiography of William Sharpe. The Viking Press, N.Y., 1952.

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Selman A. Waksman — The Literature on Streptomycin 1944-1952. 2nd ed. Rutgers University Press, New Brunswick, N.J., 1952.

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Woods School, Child Research Clinic — Helping Parents Understand the Exceptional Child. Langhorne, Pa., 1952.

The Library has received the following gifts: Abstracts of the Fourth Annual Scientific Assembly of the American Academy of General Practice, March 24-27, 1952. Kansas City, 1952. Gift of the American Academy of General Practice.

Samuel F. Adair — Rotunda Lying-In Hospital and Auxiliary Hospital. Short History and Facts Regarding this Institution. Dublin, 1910. Gift of Dr. H. G. Partridge.

Walter C. Alvarez — How to Live With . . . series of 8 pamphlets. 2 sets. Chic., 1951-52. Gift of the Providence Journal Company.

American Cancer Society — Second Report on Institutional Research Grants. N.Y., 1952. Gift of the R. I. Cancer Society.

American College of Chest Physicians, Directory 1952. Chic., 1952. Gift of the American College of Chest Physicians.

American College of Radiology, Bulletin, 1952. Chic., 1952. Gift of the American College of Radiology.

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Building America's Health. A Report to the President by the President's Commission on the Health Needs of the Nation. Vols. 2, 3, 5. Wash., 1952. Gift of the National Health Council.

Benjamin Castleman — Tumors of the Parathyroid Glands. Wash., 1952. Gift of the R. I. Cancer Society.

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Robert Coope — The Quiet Art. A Doctor's Anthology. Edin., 1952. Gift of Dr. R. Hammond.

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Diabetes Mellitus. 4th ed. Indianapolis, 1951. Gift of Eli Lily & Co.

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Louis I. Dublin — A 40-Year Campaign Against Tuberculosis. N.Y., 1952. Gift of the Metropolitan Life Insurance Company.

Rene J. Dubos, editor — Bacterial and Mycotic Infections of Man. 2nd ed. Phil., 1952. Gift of the National Foundation for Infantile Paralysis.

The First Twenty Years. A History of the Duke University Schools of Medicine, Nursing and Health Services, and Duke Hospital 1930-1950. Durham, 1952. Gift of Duke University.

Donald Fleming — Science and Technology in Providence 1760-1914. Prov., 1952. 2 cop. Gift of Dr. I. A. Beck and Dr. H. G. Partridge.

Jacob K. Frenkel and Saul Friedlander — Toxoplasmosis. Wash., 1951. Gift of U. S. Government.

Paul R. Hawley — New Discoveries in Medicine. N.Y., 1950. Gift of Mr. Stanley H. Saunders.

Health of Workers in Chromate Producing Industry. Wash., 1953. Gift of the U. S. Government.

Oliver W. Holmes — Puerperal Fever, as a Private Pestilence. Bost., 1855. Gift of Dr. H. G. Partridge.

Edward W. Hope, editor — Handbook Compiled for the Congress of the Royal Institute of Public Health, 1903. Liverpool. Gift of the Providence Public Library.

Augustus Hoppin — Hay Fever. Bost., 1873. Gift of Mr. Wallace Maxon.

Margaret Ingels — Willis Haviland Carrier, Father of Air Conditioning. Garden City, 1952. Gift of the Carrier Corporation.

James W. Kernohan and George P. Sayre — Tumors of the Central Nervous System. Wash., 1952. Gift of the R. I. Cancer Society.

Philip L. Harris and Wilma Kujawski — Annotated Bibliography of Vitamin E, 1950 and 1951. N.Y., 1952. Gift of the National Vitamin Foundation.

Erwin F. Hoffman and Frederick G. Dhyse — A Bibliography of the Cytologic Diagnosis of Cancer. Bethesda, 1952. Gift of U. S. Government.

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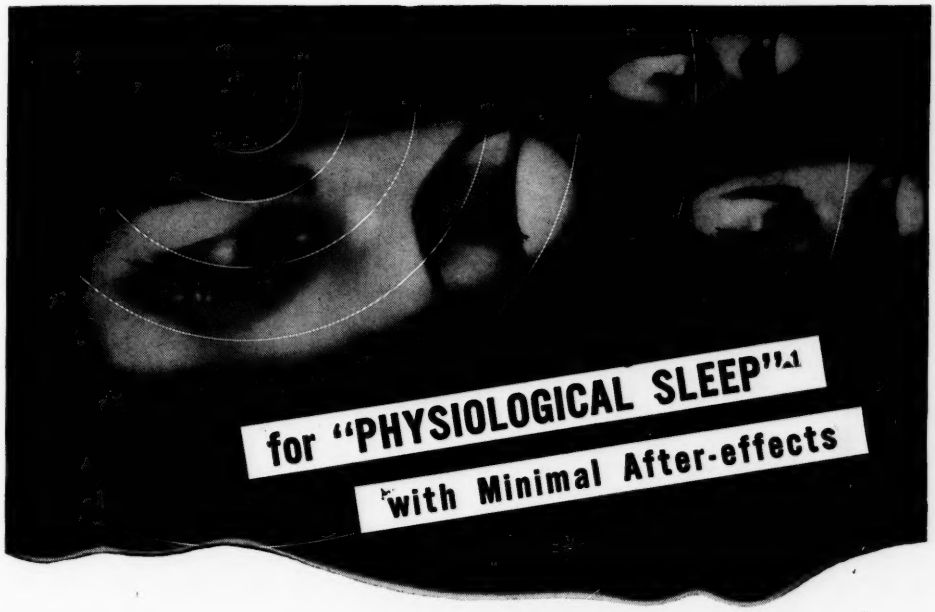

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[1]N.N.R., 1947, p. 398.
[2]Goodman, L. & Gilman, A., The Pharmacological Basis of Therapeutics. MacMillan, 1944, pp. 177-8.

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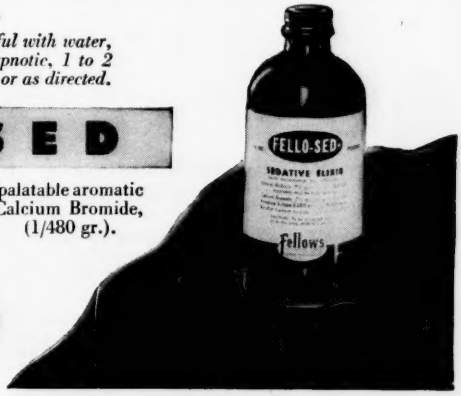

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Margaret C. Klem and others — Medical and Hospital Services Provided under Prepayment Arrangement. Trinity Hospital, Little Rock, Arkansas 1941-1942. Wash., 1948. Gift of Mr. Farrell.

Lederle Laboratories — The Fifth Year of Aureomycin. N.Y., 1952. Gift of Dr. I. A. Beck.

Hayes Martin — Cancer of the Head and Neck. N.Y., 1949. Gift of the R. I. Cancer Society.

Hayes Martin — Mouth Cancer and the Dentist. N.Y., 1949. Gift of the R. I. Cancer Society.

Memo to America: The DP Story. Wash., 1952. Gift of Dr. P. P. Chase.

Samuel Mihles—The Elements of Surgery. Lond., 1746. Gift of Mr. Wallace Maxon.

Henry B. Millard — A Guide for Emergencies. N.Y., 1871. 3rd ed. Gift of Mr. Wallace Maxon.

Harry E. Mock and others, editors — Principles and Practice of Physical Therapy. Hagerstown, 1934. Gift of Dr. R. S. Wilcox.

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H. F. Moseley — An Atlas of Shoulder Dislocations. Chic., 1951. Gift of Abbott Laboratories.

Frank H. Netter — The Ciba Collection of Medical Illustrations, Vol. 1—Nervous System. Summit, N. J., 1953. Gift of Ciba Pharmaceutical Products, Inc.

Ellen D. Nicely and others — Manual for the Conduct of Classes for Expectant Parents. Cleveland, 1939.

Howard K. Petry, editor — A Century of Medicine, 1848-1948. The History of the Medical Society of the State of Pennsylvania. Harrisburg, 1952. Gift of the Society.

Poliomyelitis. Papers and Discussions Presented at the Second International Poliomyelitis Conference. Phil., 1952. Gift of the International Poliomyelitis Congress.

Proceedings of the American Diabetes Association, vol. 9, 1949 and vol. 10, 1950. Gift of Dr. I. A. Beck.

Proceedings of the Life Insurance Association of America, 45th, 1951. Gift of the Association.

Report of the Chicago Health Department for the Year 1951, Including a Report of "Progress in the Prevention of Needless Neonatal Deaths." Chic., 1952. Gift of the City of Chicago.

Rhode Island Normal and Therapeutic Diet Guide. Prov., 1952. Gift of the R. I. Department of Health.

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Arthur H. Ruggles — The Place and Scope of Psychotherapy. Salmon Lectures. N.Y., 1952. Gift of the Author.

Sloan-Kettering Institute — Clinical Problems in Cancer Research. N.Y., 1952. Gift of the Institute.

Lawrence H. Sophian and others — The Sulfapyrimidines. N.Y., 1952. Gift of Wyeth Laboratories.

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Studies from the Rockefeller Institute for Medical Research. Reprints, vol. 145, N.Y., 1952. Gift of the Institute.

Symposium on Treatment of Trauma in the Armed Forces (10-12 March 1952). Wash., 1952. Gift of U.S. Government.

Robert Thomas — Modern Domestic Medicine. N.Y., 1829. Gift of Mr. Wallace Maxon.

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Transactions of the American College of Cardiology, vol. 2, 1952. N.Y., 1953. Gift of the College.

Transactions of the American Proctologic Society, 51st annual session, 1952. York, Pa., 1952. Gift of the Society.

Transactions of the Association of American Physicians, sixty-fifth session, 1952. Phil., 1952. Gift of the Association.

Transactions of the 11th Conference on the Chemotherapy of Tuberculosis Held on January 17 to 20, 1952. Wash., 1952. Gift of U.S. Government.

Transactions of the International Symposium on the Study of Syphilis, 1950. Helsinki, 1951. Gift of Chapin Hospital.

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University of Pennsylvania, Henry Phipps Institute for the Study, Treatment and Prevention of Tuberculosis, 33rd report, 1950-51. Phil., '52. Gift of the Institute.

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Ira Warren — The Household Physician . . . Bost., 1863. Gift of Mrs. Minnie Ayers.

Shields Warren — The Cancer Problem. N.Y., 1948. Gift of the R. I. Cancer Society.

August A. Werner — Research in Endocrinology. St. L., 1952. Gift of the Author.

Journals were contributed by Doctors Beck, Chase, Corrigan, C. L. Farrell, Gibson, Goldowsky, Hammond, Kramer, and Thewlis; by Professor R. T. Beyer and by Chapin Hospital. Books were received from the Estates of Doctors Frank B. Littlefield and Louisa Paine Tingley.

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6th ANNUAL CANCER CONFERENCE FOR PHYSICIANS

Under the Auspices of the

RHODE ISLAND MEDICAL SOCIETY

WEDNESDAY, OCTOBER 14, 1953

At the Miriam Hospital **Providence, Rhode Island**

11:00 a.m. USE OF RADIOACTIVE ISOTOPES IN CANCER

Joseph C. Aub, M.D., *of Boston.*

11:30 a.m. CANCER OF THE MOUTH

Ernest M. Daland, M.D., *Chief of Staff and Surgeon, Pondville Cancer Hospital; Member, Board of Consultation, Massachusetts General Hospital.*

12:00 noon

12:00 noon THE EXPOLIATIVE CYTOLOGIC METHOD IN THE DIAGNOSIS OF GASTRIC CANCER

(A motion picture)

1:00 p.m. Luncheon at the Hospital.

2:00 p.m. CARCINOMA-IN-SITU

Richard W. TeLinde, M.D., *Professor of Gynecology, Johns Hopkins University; Gynecologist-in-Chief, Johns Hopkins Hospital.*

2:30 p.m. SURGICAL TREATMENT OF CANCER OF THE CERVIX

Alexander Brunschwig, M.D., *Attending Surgeon, Memorial Hospital, New York City; Professor of Clinical Surgery, Cornell University Medical College.*

3:00 p.m. BRONCHOGENIC CARCINOMA

Frank B. Berry, M.D., *Professor of Clinical Surgery, Columbia University; Director of First Surgical and Chest Surgical Divisions, Bellevue Hospital, New York City.*

3:30 p.m. CARCINOMA OF THE COLON AND RECTUM IN CONNECTICUT

Edward J. Ottenheimer, M.D., *Chief, Surgical Service, Windham Community Hospital, Willimantic Connecticut; Associate Clinical Professor, Yale University School of Medicine, New Haven, Connecticut.*

4:00 p.m. GENERAL DISCUSSION

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DISTRICT MEDICAL SOCIETY MEETINGS

PAWTUCKET MEDICAL ASSOCIATION

The regular monthly meeting of the Pawtucket Medical Association was held June 24, 1953, in the Library at the Memorial Hospital. Seven members were present.

It was moved and seconded that the reading of the minutes of the May meeting be omitted.

The application of Dr. Alexander Jaworski was read and referred to the Standing Committee.

The meeting adjourned at 12:10 p.m. to permit the members to attend the Annual Golf Day at the Pawtucket Golf Club.

Sixty-two members were present at the Golf Club to participate in the festivities and to honor Dr. Henry B. Moor.

Dr. Zolmian presented greetings to members of the Spatula Club and introduced Dr. S. Markarian who conducted the subsequent procedings and awarded the prizes.

The following golf prizes were awarded: low gross, Dr. Robert Riemer; low net, Dr. Raymond Stevens; high, Dr. Emanuel Benjamin; putting, Dr. Louis Hanna; picker's handicap, Dr. Harold Woodcome. Door prizes were awarded to Dr. Philip Lappin, Dr. James Chapman, Dr. Earl F. Kelly, Dr. Francis Hanley, and Dr. Thaddeus Krolicki.

Speakers were Dr. Earl F. Kelly, President of the Rhode Island Medical Society, who recalled several experiences with Dr. Moor; Mr. J. Frigault representing the Spatula Club; and Dr. Charles L. Farrell who eulogized Dr. Moor.

Dr. Moor, the guest of honor, responded with a very sincere thank you and a promise that he "would still be around and active for a long time to come."

Respectfully submitted,
PHILIP LAPPIN, M.D., Secretary

* * *

A special meeting of the Pawtucket Medical Association was held July 16, 1953 at the Memorial Hospital. Seven members were present.

Dr. Hrad Zolmian informed the members of a letter received from Dr. Charles L. Farrell, President of the American Association of Physicians and Surgeons, requesting that the members of the Pawtucket Medical Association arrange a meeting with the Executive Secretary of his association so that the aims and plans of this organization could be explained.

The application of Drs. Martin J. Morris and David Johnson were referred to the Standing Committee. The application of Dr. Leland W. Jones for Associate Membership was read and action on his application was deferred pending receipt of proof of membership in the Providence Medical Association and/or the Rhode Island Medical Society.

A card from Dr. Dante Chiapenelli requesting transfer to inactive status pending completion of his studies in radiology was noted.

The meeting adjourned at 10:00 a.m.

Respectfully submitted,
PHILIP LAPPIN, M.D., *Secretary*

6TH ANNUAL

DR. ISAAC GERBER ORATION

Sponsored by the Miriam Hospital Staff

WEDNESDAY, OCTOBER 21, at 8:30 P.M.

at the Auditorium of the Miriam Hospital

"THE BACTERIAL FACTOR IN TRAUMATIC SHOCK"

JACOB FINE, M.D.
of Boston, Massachusetts

Professor of Surgery in Beth Israel Hospital,
Harvard Medical School

BOOK REVIEWS

PRINCIPLES OF MEDICAL ETHICS by John P. Kenny, O.P., PH.D. The Newman Press, Westminster, Maryland. 1952. $3.25

In the course of his practice, every physician is confronted from time to time with problems which require for their solution some knowledge of moral principles. What these principles are and how they should be applied in various concrete situations he may learn from the perusal of Father Kenny's handbook, in which he sets forth succinctly, but adequately, the principles of Christian ethics, with particular reference to the teachings of the Roman Church. As Father Kenny so truly says, physicians and nurses too often begin their professional careers equipped with an excellent general education and technical training, but with little or no knowledge of the moral aspects of the problems which arise so frequently in their daily work. And since the problems encountered by the physicians and nurses are not treated in religion or general ethics courses, medical and nursing students need to be well instructed in the principles of medical ethics.

In the opening chapter of his book, Father Kenny discusses the fundamental principles of morality and shows that these are deduced logically from the basic law of our nature, namely, do good and avoid evil. Moral principles are not the heritage of any particular religion because they belong to the whole human race and should be known and practiced by every human being. Therefore, an action is good if it is in accord with sound reason; it is evil if it is unreasonable, and on this foundation rests the whole structure of medical ethics.

Among the subjects discussed in succeeding chapters are professional rights and duties, morals and marriage, the morality of artificial insemination, periodic continence (rhythm), organic transplantation, the administration of drugs, hypnotism, abortion, the moral problems arising from the latest findings on painless childbirth, and the administration of baptism in hospital practice.

An appendix contains the ethical and religious directives for Catholic hospitals adopted by the Catholic Hospital Association of the United States and Canada. For those who may wish to extend their reading, there is a valuable bibliography not easily available elsewhere.

Father Kenny has rendered a notable service to the members of the medical and nursing professions. With a sound knowledge and understanding of the medical, as well as of the moral aspects of the problems under discussion, he has shown how necessary and important for practice, is the integration of ethics with medicine, and has produced an interesting and informative handbook which should be literally a handbook for the guidance of those on whose behalf it was written.

JOHN E. DONLEY, M.D.

DIABETES MELLITUS. Principles and Treatment, by Garfield G. Duncan. W. B. Saunders Company, Phil., 1951. $5.75

The text on DIABETES MELLITUS, Principles and Treatment by Dr. Garfield G. Duncan, has been very well received. The outline of the book is very practical in that it presents the fundamentals of diabetes in a way that is excellent for teaching.

The work is not long since it comprises only two hundred sixty-nine pages. However, the basic concepts are stressed often enough to be valuable without being offensively repetitious.

The treatment is exceptionally well outlined with clear-cut detail on use of insulins. Considerable emphasis has been placed on the simplified Food Exchange System which now renders dietary regime universal.

The illustrations, reproductions of pictures and charts are easily understood. Whereas his bibliography is not lengthy, it is well chosen. All in all the book is a complete text and excellent reference.

ROBERT E. CARROLL, M.D.

THE PSYCHOLOGY AND PSYCHOTHERAPY OF OTTO RANK: An Historical and Comparative Introduction, by Fay B. Karpf, PH.D., Philosophical Library, New York, 1953. $3.00

The author of this book was associated with Rank in a teaching capacity for a number of years, and the main part of this work, dealing with his concepts, was published during his lifetime and had his endorsement.

The first part of the book, called a "biographical sketch," deals mostly with Rank's relationship to Freud, how he became a member of the "Inner

Circle," and how he came to leave this same group. The author devotes the second part to a brief but clear presentation of 1) the fundamentals of the Freudian doctrine of psychoanalysis; 2) the Jungian background:—how C. G. Jung came to develop his divergent ideas of analytical psychology, and his break with Freud over the Freudian doctrine of libido; and 3) the Adlerian background:—Alfred Adler's emphasis on ego psychology against the Freudian libido psychology, and the designation of the Adlerian system as "individual psychology."

In the last and main part of this book the author presents in some detail Rank's concepts of "Will or Dynamic Relationship Therapy." She tells how the publication of Rank's "Trauma of Birth" in 1924 caused his final break with Freud, and how he went on to develop his divergent position in many directions, particularly his concept of "relationship" and "will" as a determining consideration in therapy and in personal development. She goes on to elaborate somewhat on the influence of these Rankian concepts in the field of social work.

The author brings out Rank's feeling about his divergent views by saying that in his book "Will Therapy" he envisages his goal in a quotation from Kant,

"You will learn from me not philosophy but to philosophize, not thoughts to be imitated but to think."

Anyone interested in psychology, psychotherapy, and the development of the psychoanalytical movement will find this interesting reading and a stimulus to delve into the other deviant developments in modern psychotherapy.

SARAH M. SAKLAD, M.D.

ADVANCES IN MEDICINE AND SURGERY from the Graduate School of Medicine of the University of Pennsylvania, W. B. Saunders Company, Phil., 1952. $8.00

Ten selected subjects of considerable current interest are presented by the faculty of the Graduate School. The subjects covered are: 1. The present status of adrenal-cortical hormones, 2. Potassium in health and disease, 3. Hypertension, newer aspects of medical and surgical treatment, 4. Pre-operative evaluation and preparation of patients, 5. Thromboembolism, 6. Pulmonary infections, 7. Relief of pain, 8. Current status of cancer problem, 9. Recent developments in viral diseases, 10. Functional disorders.

Each of the ten main subjects are broken down and the component parts discussed by the member of the faculty whose main interest lies in that subject. An example of the technique is illustrated by the section on viral disease. This subject includes the following subsections: 1. Viral Hepatitis presented by Joseph Stokes, Jr., 2. Poliomyelitis and

mumps by Werner Henle, 3. Coxsackie virus by M. Michael Sigel.

This volume represents another attempt to effectively bring to the practicing physician balanced reporting of the medical research and progress in each of the subjects listed. The evolution of reporting medical research is obviously now in a very active phase. With increasing numbers of journals, it is obvious that year books, symposia, and interim texts such as this, must be resorted to by the busy practitioner. In fulfilling this need for balanced reporting and authoritative editing of new material, this text is very effective. This first volume of what appears to be a new series by the Graduate School faculty of the University of Pennsylvania will serve well as an interim text on the subjects covered. There is adequate documentation and references of the material quoted but this is not overdone as in many review articles and yearbooks. The references are handled as references in established text books of medicine where only those extremely pertinent articles as judged by the experience of the reviewer warrant reference.

The range of subjects is wide and probably no physician will be equally interested in each of the subjects. However, regardless of one's primary interest, there is sufficient material from either the surgeon's or internist's viewpoint to warrant his interest and there is considerable overlapping of the two fields.

As a current summary of the important new material of the subjects covered, this book has proven to be useful and very worth while.

ROBERT V. LEWIS, M.D.

DISEASES OF METABOLISM: DETAILED METHODS OF DIAGNOSIS AND TREATMENT: Edited by Garfield G. Duncan, M.D., Third Edition, Illustrated, W. B. Saunders, Philadelphia, 1952. $15.00

It is a paradox that while medicine is becoming increasingly specialized and more complex, one has increasing difficulty in dividing the various branches of the science into rigid compartments. The sum of the parts is less than the whole unless there is reciprocal action of each branch with its fellows. Thus, a surgeon can no longer be considered entirely adequate if, having made an operative diagnosis, he proceeds to cut and stitch in the appropriate manner—he must also now have some acquaintance with the hitherto esoteric physiology of electrolyte imbalance and nutritional deficiency.

The paradox referred to is well illustrated in this present volume. A compendium of diseases of metabolic origin must now diffuse over a wide spectrum including material formerly regarded as belonging purely in the fields of biochemistry, endocrinology, or nutrition. The present text requires

nearly 1200 pages to do so, and future editors may find the confines of a single volume too restrictive.

This third edition has many new authors and subjects. It consists essentially of a series of monographs which are complete in themselves. Their inclusiveness and accuracy are assured by the standings of the various authors, all of whom are well known as authorities in their respective fields. The volume begins with consideration of fundamental physiology and evolves into the derangements of the bodily economy which constitute the metabolic diseases. Specific criticisms of an encyclopedic treatise such as this are difficult to make unless one be a specialist in each of the fields covered. A minor omission noted in the section on diabetes mellitus is the failure to point out that in many clinics pregnant diabetics do as well without, as with, hormone treatment.

There is probably no recent text in English which covers the metabolic sphere as completely and as in detail as this present edition of Duncan. In spite of the hypermetabolism of metabolic knowledge, it is likely that this will persist as the standard reference work for some time to come.

IRVING A. BECK, M.D.

DOCTOR KEEFER NAMED

The post of Special Assistant (Health and Medical Affairs) to the Secretary of Health, Education, and Welfare goes to a prominent Boston physician, Dr. Chester Scott Keefer. Professor of medicine at Boston University School of Medicine, Dr. Keefer received his medical degree from Johns Hopkins University in 1922. In addition to a long career in teaching, the new Special Assistant is an expert on antibiotics, supervising penicillin and streptomycin distribution for the U.S. and allies in World War II. He was chairman of the National Research Council's committee on chemotherapeutics which advised on civil defense medical stockpiling. Dr. Keefer has been physician-in-charge at Massachusetts Memorial Hospital since 1940. He is a fellow of the American College of Physicians, a member of the American Society of Clinical Investigation and has served on the American Medical Association's Council on Pharmacy and Chemistry. Under terms of Reorganization Plan No. 1 creating the department, the Special Assistant is charged with reviewing and advising the Secretary on all health and medical programs of the department as well as on health and medical legislation.

—From the AMA Washington Letter

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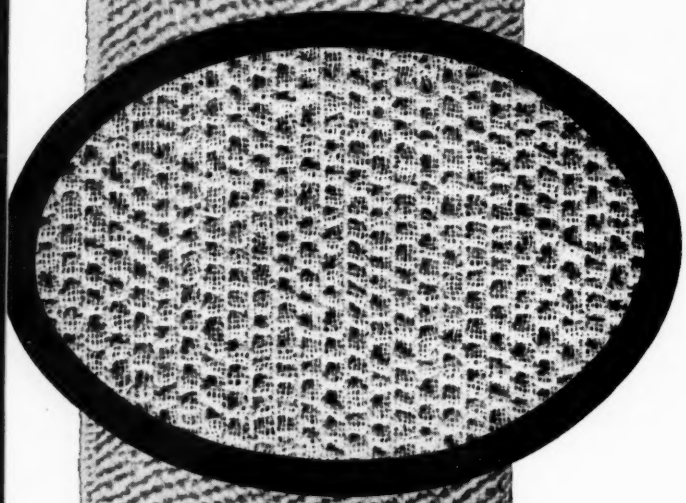

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